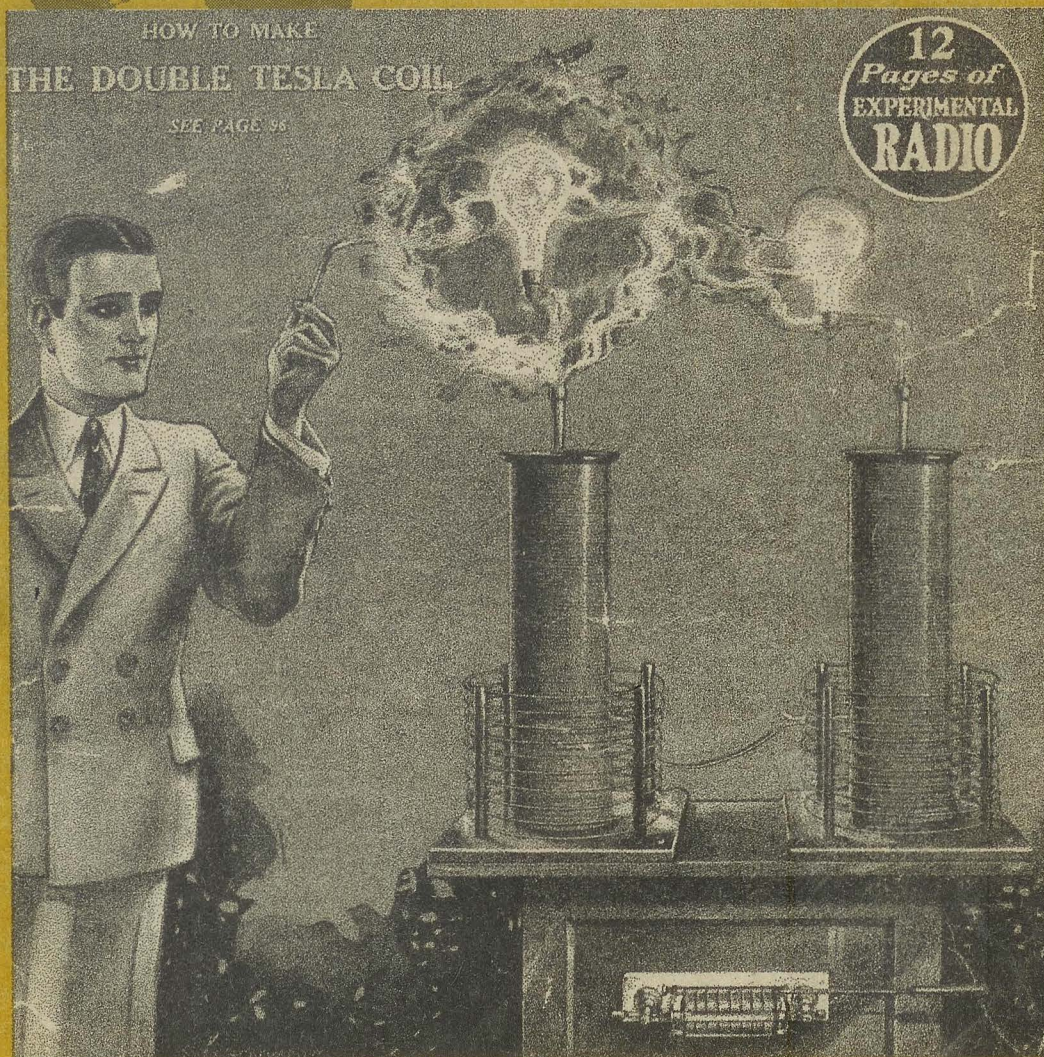


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# HIGH VOLTAGE!

Generation, Applications  
& Experiments

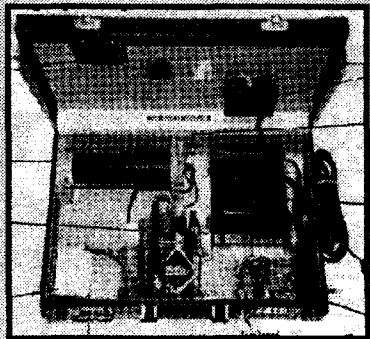


## LAKHOVSKY OSCILLATOR

LAKHOVSKY MULTIPLE WAVE  
OSCILLATOR HANDBOOK

compiled by Thomas J Brown

Supposedly sometime before World War II, Russian experimenter Lakhovsky asked Nikola Tesla to help him design a high voltage generator that could produce electrical energy at many different frequencies simultaneously. A model of the machine was tested by physicians of the time who found that it not only had a 98% cure rate for terminal cancer, arthritis, and other "hopeless" diseases, but that it could rejuvenate plants and animals as well.



No doubt the oscillator works and is an interesting piece of equipment, but I wouldn't stake my health or anyone else's on it. Quack medicine machines were everywhere in the 1920's & 30's. This could well be another.

In this typewritten report you get historical details, wiring diagrams, construction tips, articles on waves that heal, "documented" cases of cure, reprints of the Lakhovsky patents, and a series of reprinted magazine articles on the use of radio frequency waves to cure disease.

Modern physicians have found that electrical fields can speed healing of wounds in some instances. Perhaps this material has some merit, or perhaps it's all a hoax. Maybe it's another suppressed invention. You figure it out. You'll find it interesting reading — a very unusual collection of material. Get a copy. 8 1/2 x 11 paperback 144 pages

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### DOUBLE TESLA- OUDIN COIL

reprinted by Lindsay  
Publications

Here, in one small booklet are five fascinating articles reprinted from the "The Experimenter" magazine and its derivative magazines of the World War I era.

The first article is entitled "Seeing the Unseen" and reveals one experimenter's construction of a



## RARE HIGH VOLTAGE INFO!

*Selected Articles from Very Early Electrical Magazines*

double coil high voltage generator that was a cross between a Tesla coil and an Oudin coil. He built it with the hope of discovering some of the mysterious rays that he felt existed outside the spectrum of visible light. I don't think you'll be discovering any new rays but if you want to impress the devil out of someone with a blinding 20" bolt of lightning, this is the machine to build.

A single 2 kilowatt transformer, spark gap and Leyden jar arrangement drives two sets of primary and secondary coils to generate the high voltage. I don't know where you'll get a 2 kw transformer with a 25,000 secondary, but you may be able to rewind the secondary of an existing transformer. The rest of the equipment appears to be straight forward. Reprinted from December 1925.

The second article is entitled "Wireless Transmission of Power Now Possible". Here, again, I don't believe it, but supposedly a British genius devised a way to transmit power into the ionosphere using air ionized by a power beam of light. It sounds much like a laser. March 1920.

"Home-Made Geisler Tubes" will show you how to make these neon-like tubes for use with high voltage equipment. You're shown the glass working technique, the hydrogen generator needed, and more. It sounds a little risky to me, but this is how it's done. This is information you're not going to find just anywhere.

After you build your lightning bolt gen-

erator, how are you going to brag about it if you don't know what the exact output voltage is? Or more importantly, how are you going to know if the new coil you've just built is actually better than the last? Or if the coil you are adjusting is getting "hotter"? "Testing High Voltages with Spark Gaps" is an article from 1917 that will show you how to build a very simple precision spark gap and use it to measure voltages up to 400,000 volts to within 2% accuracy as claimed by the American Institute of Electrical Engineers. It's a very simple device that when operated according

to recommendations and used with supplied tables will reveal the voltage impressed upon it. Excellent article.

And the final article from March 1917 is entitled "U.S. Blows Up Tesla Radio Tower." You'll see photos of Tesla's long island radio tower collapsing from explosives. The unused tower was suspected of being used by spies to transmit information back to Germany.

This is a small booklet, but the information it contains is rare. The original text has been reset to make it much

easier to read and all original illustrations have been retained. You have probably read about some of this in other Tesla books and the like. These are the original articles that the authors used as their sources. Now you can get the information first hand. Interesting reading. Valuable know-how. Great ideas. Order a copy! 5 1/2 x 8 1/2 booklet 23 pages

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# HIGH VOLTAGE!



Generation, Applications  
& Experiments

## ELECTRICITY AT HIGH PRESSURES & FREQUENCIES

by Henry L. Transtrom  
reprinted by Lindsay Publications

This off beat book on high voltage appeared in 1913 and was revised again for publication in 1921. Its chapters have no names. There appear to be 139 illustrations.

The entire first part of the book covers electrical theory on electricity, how it is produced by generators, ideas of induction, ampere-turns, frequency and the phase shift that occurs through reactive elements and much more. This isn't heavy stuff—practical theory that builders can use, more or less translations of "heavy" engineering theory. This is great material for the experimenter in induction coils, Tesla coils, Oudin coils, and other lightning bolt generators.

You won't find much how-to, but you will find details about existing equipment, how it works, simple calculations on perfor-

## Electricity at HIGH PRESSURES & FREQUENCIES

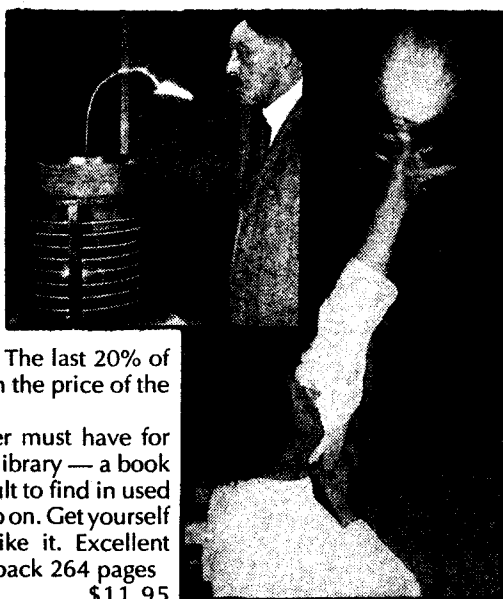
mance, and some remarkable photographs of experiments that can be performed with a lightning bolt generator.

Chapter 13 on page 165 talks about the fact that Tesla, Fessenden and others have not been able to generate frequencies over 100,000 Hertz (cycles per second). Then they show you a Fessenden alternator driven by a 10 hp DC motor through gears that revolves at 20,000 rpm that kicks out over 2,000 watts of high-frequency high voltage!

You'll then read about capacitive machines. You'll see a device that develops 15,000 volts between two ends of 25 feet of No. 4 aluminum wire! Another photo shows a 10 volt 5 watt Mazda lamp is lit to full brightness although apparently short circuited by 6 inches

of No. 00 copper wire! It shouldn't work, but it does. You'll see a high-frequency transformer that throws heavy 60" sparks between its terminals. Other photos show unusual high voltage experiments. The last 20% of this book is worth the price of the entire book!

This is another must have for the high-voltage library — a book that is very difficult to find in used book stores and so on. Get yourself a copy. You'll like it. Excellent book! 5x7 paperback 264 pages Cat. no. 20544 \$11.95



## HIGH FREQUENCY APPARATUS

by Thomas Stanley Curtis  
reprinted by  
Lindsay Publications

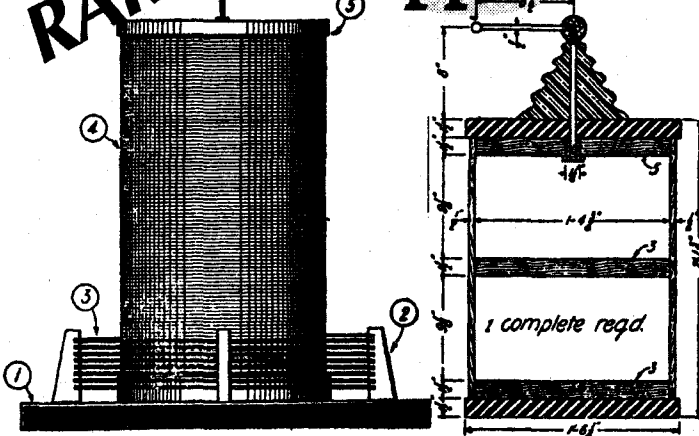
By 1916 so much interest in induction, Tesla and Oudin coils had been generated by Electrician & Mechanic, Popular Electricity and Modern Mechanics, and The World's Advances magazines, that Curtis knew his book and high voltage equipment he manufactured would be a hit.

Because of their very nature, magazines could publish only brief articles on these lightning bolt generators. Curtis went the other extreme, and packed "Apparatus" with as much detailed information as he could find. Then he added suggestions for experiments and dozens of illustrations. The result is now a classic book, and original copies are so coveted that they're difficult to find.

You get wall-to-wall how-to on coil construction. Tips on calculating windings, winding coils, making trans-

formers, inter-

## "High Frequency Apparatus"



gaps, and even the power transformers that drive the spark gap.

If you want to die young, you can build an X-ray apparatus. Use it long enough, and you and everyone in your apartment building will glow in the dark!

Build a grid and see for yourself if high frequency current really does affect plant growth. Build yourself a large coil that produces 50" lightning bolts, give lectures, and make people think you are a genuine made scientist.

Great book. And absolutely MUST HAVE book for the Tesla coil experimenters. Get a copy for your high-voltage library. Quality. Order a copy today. 5 1/2 x 8 1/2 paper 247 pages well illustrated Cat. no. 20030 \$12.95

## CONTENTS

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- 3 The High Potential Transformer or Induction Coil
- 4 The Oscillation Transformer
- 5 The Spark Gap
- 6 Oscillation Transformers
- 7 Induction Coil Outfits Operated on Battery Current
- 8 Kicking Coil Apparatus
- 9 One-Half Killowatt Transformer Outfit
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- 14 Notes for the Beginner in Electro-Therapeutics
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- 16 High Frequency Plant Culture
- 17 A Foreword on the Construction of Electrical Apparatus for the Stage
- 18 Construction of Large High Frequency Apparatus
- 19 Large Tesla and Oudin Coils for the Stage
- 20 Construction of a Welding Transformer
- 21 Hints for the Electrical Entertainer
- Appendix Parts and Materials — How Much They Cost and Where to Get Them

# HIGH VOLTAGE?



Generation, Applications  
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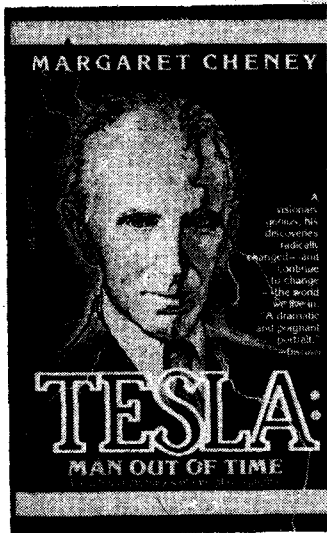
## TESLA: MAN OUT OF TIME

by Margaret Cheney

"Flamboyant, eccentric, almost supernaturally gifted, had he been born today he would still be ahead of his time. Called a madman by some, a genius by others, and an enigma by nearly everyone, Nikola Tesla was perhaps the greatest inventor the world has ever known..."

"It was Tesla who harnessed the alternat-

# MAN OUT OF TIME!



ing electrical current that we use today... Tesla who actually invented radio... Tesla who invented fluorescent lighting and the incredible bladeless turbine. He introduced us to the fundamentals of robotry and computer and missile science, which continued to create and transform the future..."

There are many books about Tesla, some of them are garbage written by groupies who worship Tesla as a god. Here's a great factual biography that has gotten great reviews — the story of a wizard who was Edison's enemy, Mark Twain's friend, and J. P. Morgan's client. This is the real story. Excellent book at a reasonable price. Order a copy. 310 pages "mass" paperback a few photos

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# Prodigal Genius!

## Classic Tesla Biography

### PRODIGAL GENIUS

#### THE LIFE OF NIKOLA TESLA

by John J. O'Neill

"Spectacular as all his inventions seemed, they were only offshoots of his truly monumental discoveries in the basic principles of electricity. Today, dozens of his patents are in use in his adopted country, America, while in his native Serbia he is revered as a national hero.

His brilliant, eccentric personality gives to Tesla's life story the quality of the strangest romance. He made his first million dollars before he was forty, yet gave up the royalties on his most profitable inventions as a gesture of friendship, and died almost in poverty. Handsome, magnetic and elegant, he was the 'catch' of New York society, yet no woman

could win him from his dedication to science. He refused to accept the Nobel Prize; and when others claimed credit for the revolutionary ideas his extraordinary mind threw forth like showers of sparks, he did not contest them.

In this penetrating study of the life and mind of scientific superman, Nikola Tesla is revealed as a figure of genius who influence upon the world around us is incalculable, and whose shadow stretches far into the future."

This is a newly-typeset reprint of the classic biography of Tesla. Every Tesla library should have a copy of this. No ands, ifs or buts. And the price is quite reasonable. Get one! 5 1/2 x 8 1/2 paperback 329 pages

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### ALL ABOUT LIGHTNING

by Martin A. Uman

You'll enjoy this great easy-to-read, highly entertaining book on lightning and its dirty work. From the back cover:

"Does lightning strike twice in the same place? How does a lightning rod work? What is ball lightning? How many thunderstorms are in progress in the world

# All About Lightning!

at any one time? Why does lightning zigzag? What is St. Elmo's Fire?

These and many more often-asked questions about lightning are answered in this fascinating and informative guide for the layman, presented in an easy-to-follow question-and-answer format. One of nature's most awesome phenomena, lightning has intrigued man since earliest times. In this book, a noted scientist and expert on lightning dispels many misconceptions while offering a wealth of scientific and technical information about the nature of lightning and its effects.

You'll discover how Benjamin Franklin proved that lightning was electrical, how to protect yourself from lightning, how to photograph lightning (it's not difficult), the possible relationship between ball lightning and UFOs, what to do for a person struck by lightning, the nature of sheet lightning, ribbon lightning, bead lightning and other variations, and much more. While the overall approach is nontechnical, Dr. Uman has incorporated scientific data in the answers in such a way that laymen will find the book a near-painless introduction to current scientific knowledge about lightning.

Simple, well-drawn diagrams illuminate the text, along with a selection of spectacular lightning photographs, including a remarkable image of 5 lightning bolts produced by the explosion of the first thermonuclear device. In addition, each chapter contains a list of references cited in the text which suggest further reading for anyone interested in finding out more about earth's dazzling atmospheric fireworks."

Fascinating book. Get a copy! 5 1/2 x 8 1/2

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# Jacob's Ladder

## Plans & Instructions to BUILD THE TRAVELING ELECTRIC ARC (JACOB'S LADDER)

by John F. Nuyten

You've seen them — those two wires sticking up in the air in a "V" shape with a spark that starts at the bottom and slowly travels upward. You've seen them in the "mad scientist" movies.

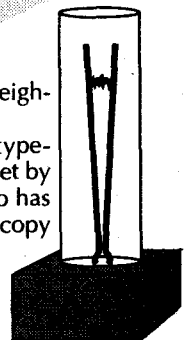
The ladder is easy to build and quickly goes together. It makes an impressive science fair project, although I'm not sure exactly what scientific use there is for it. Maybe you can use it to

terrify your neighbors.

Another type-written booklet by someone who has done it. Get a copy — for your reference library, if nothing else. 5 1/2 x 8 1/2 booklet 16 pages

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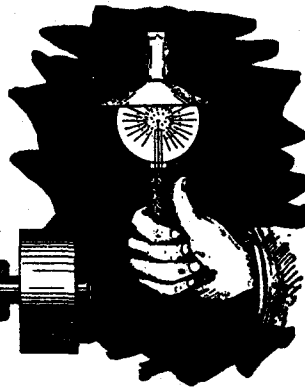
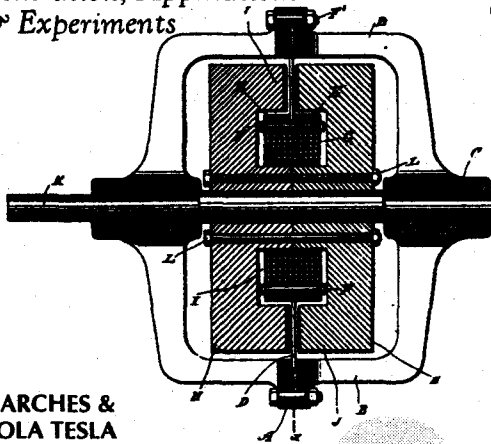




# HIGH VOLTAGE!



Generation, Applications  
& Experiments



**INVENTIONS, RESEARCHES & WRITINGS OF NIKOLA TESLA**  
by Thomas Commerford Martin  
reprinted by  
Lindsay Publications Inc

The greatest world's fair ever constructed was underway in Chicago in 1893. More electricity and more electric lights were used in the fair than in the entire city of Chicago. It was the electric age, and Edison was doing with commercial battle with Westinghouse and its star, Nikola Tesla.

In 1893, this volume, a comprehensive collection of Tesla's work to that point, was published. And although it is now quite rare, you can have a high quality reprint for a small fraction of what cost us to obtain an original copy.

Most people think of lightning generators when they think of Tesla, but that's a very narrow perspective. People should think of alternating current. Tesla created the power system used throughout the world today — one that operates at 50 and 60 cycles per second.

Tesla experimented with other frequencies, iron and air core transformers, as well as motors and generators. Tesla didn't just one day decide he was going to build his famous lightning bolt generator. It was but another step in a series of experiments that had begun years before. Here you get a complete record of this research up to 1893.

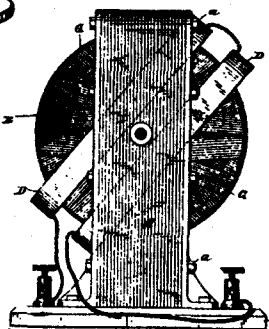
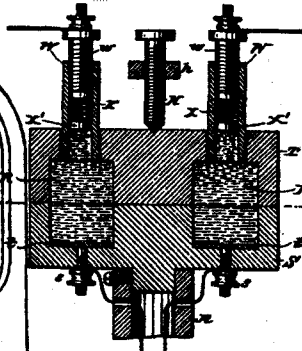
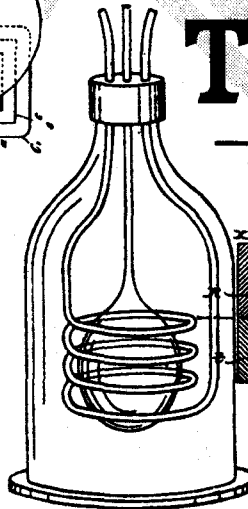
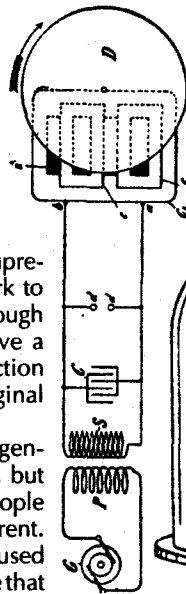
It's all here — the AC experiments and inventions that lead Tesla to experiment with ever higher voltages and frequencies, the neon tubes and fluorescent lights, unusual high frequency alternators and even magnet motors.

If you want to carry on Tesla's unusual research, you must walk in his footsteps. You must do your homework. Here in one volume is the early work that will help you get your mind in sync with his and perhaps suggest what he was thinking at the time, and give you ideas of where to take his experiments.

Every Tesla fan, every high voltage experi-

*Inventions,  
Researches &  
Writings of*

# NIKOLA TESLA



menter, and every electrical engineer should have a copy of this classic book. Just as much as Edison, Tesla created the world in which we live today. Now you can study the results of his research, attend his special exhibitions, and devour his lectures, with this single volume. Order a copy today! 5 1/2 x 8 1/2 paperback 496 pages  
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Mr. Tesla's Personal Exhibit at the World's Fair; The Tesla Mechanical and Electrical Oscillators.



# HIGH VOLTAGE!



Generation, Applications  
& Experiments

## EXPLODING WIRES

Principles, Apparatus and Experiments  
by Steve Hansen

Exploding what? Wires? What good is it? It's about as much good as anything else in this crazy catalog. It's for fun. AND it is required course material if you are ever to get your mad scientist degree.

Exploding wires and foil go back a couple

# EXPLODING WIRES!

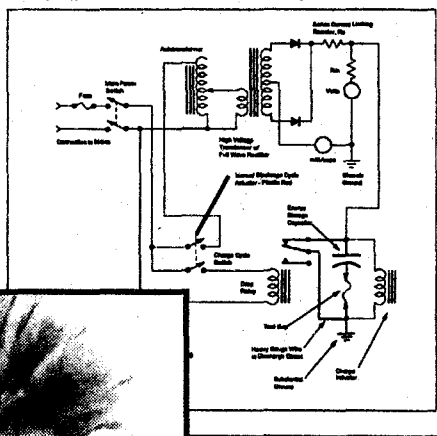
of hundreds of years when static electricity machines were being perfected. Even that crazydude, Ben Franklin, blew things up with powerful jolts of electricity. It must have been really spectacular at parties! Exploding "wires" of frozen deuterium are being used to trigger experimental fusion reactions. And when you think about it, this is really a misapplied

### DISCHARGE & CONTROL CIRCUITS

The discharge circuit is shown in the lower part of Figure 4. This consists of the capacitor, the high voltage step relay, the test gap, and a charge inductor. Locate the discharge circuit away from the charging circuit with all high voltage (thick lines in the figure) wiring as close as possible to minimize the heavy inductances. These cables can be made from auto battery jumper cables with all other flexible plastic (vinyl) tubing slipped over the wires to provide adequate insulation. Terminations are best made with heavy copper tape. Check a welding supply store for them. There also need the best from high quality RG-58 coaxial cable. Just strip back the outer jacket and solder the leads to the braid leaving the inner conductors disconnected. As before, place vinyl tubing over the cable.

The use of the charge inductor is increased from making electrical. As a safety measure, the inductor will provide a relatively quick discharge path should the gap not fire. The inductor should have a low resistance (about 100 ohms). If a suitable high voltage choke can't be found, a string of vacuumfused (inductively powered) resistors may be used. Another approach is to use a standard neon ignition coil in the chain. The high voltage end of the coil is connected to the power supply and capacitor, the primary negative terminal is connected to the ground.

The discharge cycle is initiated when the step relay is de-energized. This relay, as shown in Figure 5, is made using an appliance switch. The contacts are the leads of steel carriage bolts. Use the braid from RG-58.



spotwelder of sorts.

Essentially you dump a vast amount of electrical energy through a thin wire in a very short time. The enormous current that flows through the resistance of the wire generates

ates searing heat, melts the metal wire, vaporizes the metal, generates a blinding flash, and liberates a sonic shock wave (guaranteed to scare the neighbors).

In this slim but well-written and well-illustrated booklet you get everything you need to know to pull off one of the more bizarre science stunts around. You get the basic history and theory, analysis of the DC charging circuit that loads up storage capacitors, discussion of discharge and control circuits, and experiments. You also get several possible sources for the unusual components.

What good is it? What good is a Tesla coil? Van de Graaff generator? It's for fun. So go ahead and explode wires. Careful, though. The "white coats" may come after you with a straightjacket and Thorazine. But that might be an adventure in itself...

Get a copy. Very unusual information. Well done. Worth having. 8 1/2 x 11 booklet 11 jam packed pages

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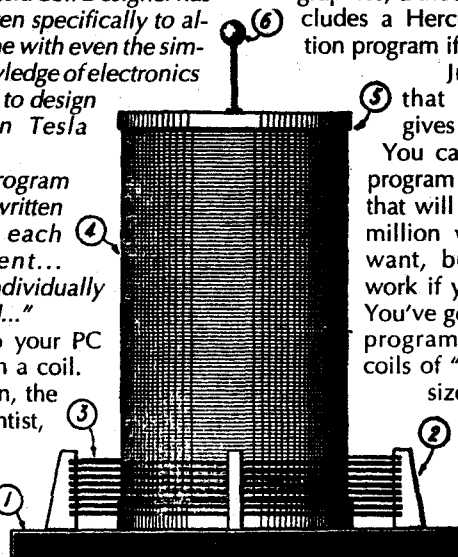
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## THE TESLA COIL DESIGNER by Walt Noon

"The Tesla Coil Designer has been written specifically to allow anyone with even the simplest knowledge of electronics to be able to design their own Tesla coil..."

The program has been written so that each component... can be individually calculated..."

Fire up your PC and design a coil. Walt Noon, the mad scientist, will provide you with a quality



copied to your hard disk for execution. You'll need at least CGA graphics, although Walt includes a Hercules emulation program if you don't.

Just realize that garbage in gives garbage out. You can make the program design a coil that will deliver 250 million volts if you want, but it won't work if you build it. You've got to use the program to design coils of "reasonable" size and power.

There are physical limits that no computer program is go-

# Tesla Coil Design Computer Program

design program that offers more sophisticated design features than programs offered at twice the price.

You get a 5 1/4 floppy and a small booklet which walks you through the design of a 200,000 volt Tesla coil. The program is not copy protected, and can be

ing to know about. Coils giving 40" arcs have been easily designed and successfully built.

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Newest version includes calculations for top capacitance, toroidal terminals, spark gap design, and additional graphics.

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Dear Mr. Noon:

Thank you very much for the Tesla Coil Designer program. I found it very easy to learn and A HUGE TIME SAVER! The hours I used to spend calculating design parameters are now spent comparing various design limits. I have found your Designer to be extremely accurate in predicting coil frequency and discharge in the coils I have built since purchasing your program.... I have been very pleased with the way the program operates...

Richard T Quick, Glendale MO

Walt:

I purchased your IBM PC Tesla Coil software back in May, and I like the software very much...

Kim Kochersperger, Kokomo IN



# HIGH VOLTAGE!



Generation, Applications  
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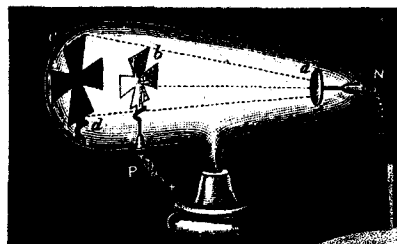
## PROCEEDINGS OF THE 1990 INTERNATIONAL TESLA SYMPOSIUM edited by Steven Elswick

Explore this collection of practical, experimental, and, in some cases, loonie ideas related but not limited to Tesla. Some of this is fascinating reading, some a rehash of material available elsewhere, and some the raving of people who claim that scientists are

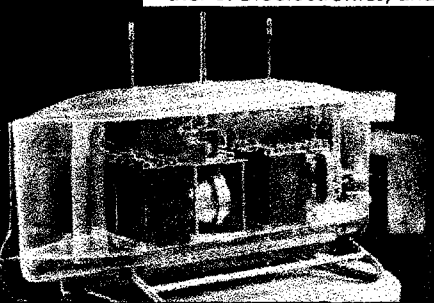
all wrong, and that they have the knowledge that will totally change the world.

Included are the Tesla Museum, the AC/DC war, a great paper by Jim Hardesty on X-Rays and Electron Beams, 100 Years of Cavity Resonator Problems, Rediscovery of Tesla's RF Techniques, Computer Aided Design of Tesla Coils, Active Antenna for ELF Magnetic Fields, Tesla Technology and Radioisotopic Energy Generation,

Current Tesla Turbine Technology, Non-Hertzian Scalar Energy and EM Energy: The Biological Connection, Nikola Tesla: Father of Bioelectronics, and



the "good stuff": Tesla Wave Physics for a Free Energy Universe, Engineering Intro to Zero Point Energy, Tapping the Zero-Point Energy and Scalar Current, Nonlinear Dynamics,



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Fascinating wood cuts illustrate almost every article. If static electricity is your field, you'll want to add this low-cost booklet to your reference library. Very unusual. Get a copy.

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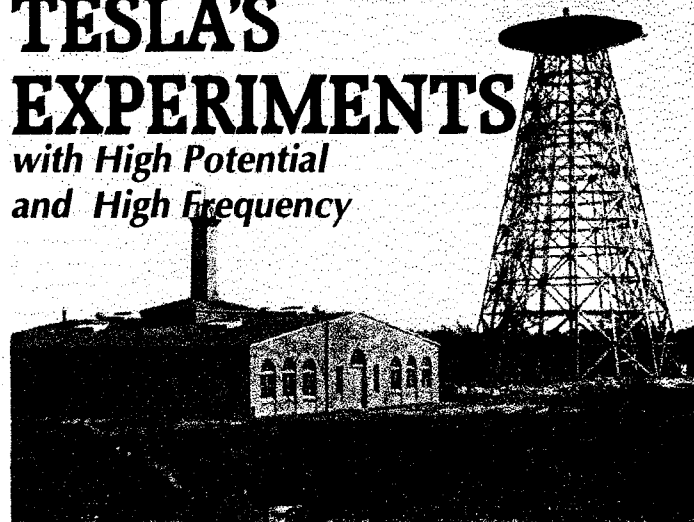
## EXPERIMENTS WITH ALTERNATE CURRENTS OF HIGH POTENTIAL & HIGH FREQUENCY

by Nikola Tesla

"A lecture delivered before the institution of electrical engineers, London, by Nikola Tesla with an appendix by the same author on the transmission of electric energy without wire, reviewing his recent work, and presenting illustrations from the photographs never before published".

Quite a title! Quite a book! There's so much written and published about Tesla (and too much of it is pure garbage), that it is refreshing to have the inventor himself explain his experiments, theories, and plans. It's all here, every page from the original 1904 book —

## TESLA'S EXPERIMENTS with High Potential and High Frequency



Power transmission without wires: the London Lecture plus a 1904 magazine article on the Colorado Springs experiments! Rare book!

complete with unusual illustrations showing disruptive discharge coils, improved discharger and magnet, luminous discs, single wire and no wire motor, unusual electric lights for use with the high-frequency AC that is generated by the Tesla coil, and much more.

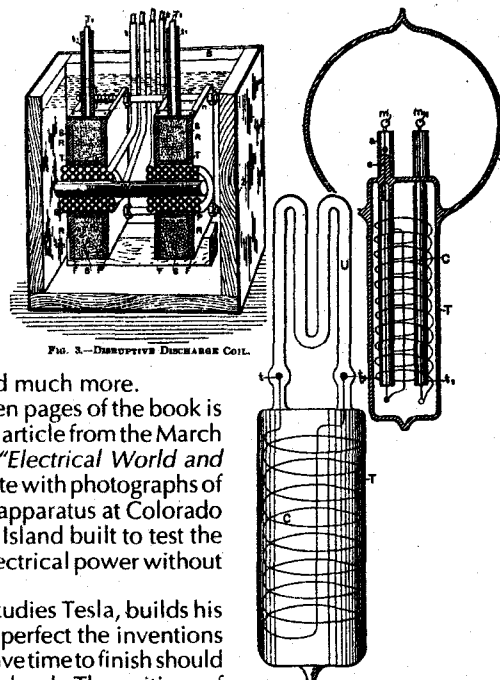


FIG. 3.—DISRUPTIVE DISCHARGE COIL.

The last fourteen pages of the book is a reprint of Tesla's article from the March 5, 1904 issue of "Electrical World and Engineer" complete with photographs of the experimental apparatus at Colorado Springs and Long Island built to test the transmission of electrical power without wires.

Anyone who studies Tesla, builds his coils, or wants to perfect the inventions that Tesla didn't have time to finish should have a copy of this book. The writings of Tesla himself should be the cornerstone of any Tesla library, and here is your chance to get your own copy of this now-rare book. Interesting reading. Historically important. Get a copy. 5 1/2 x 8 1/2 paperback 170 pages.

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# HIGH VOLTAGE!

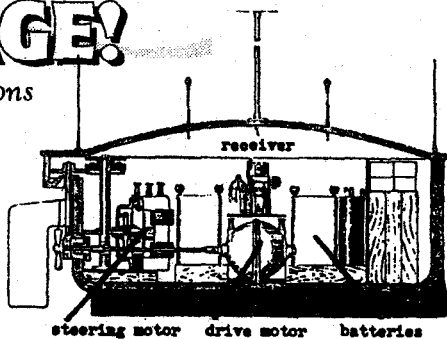


Generation, Applications  
& Experiments

## TESLA: THE LOST INVENTIONS

by George Trinkaus  
"Here are the suppressed inventions of Nikola Tesla all in one place rendered in clear English and in 42 illustrations.

Tesla was famous at the turn of the century for inventing the alternating-current system still in use today. But his later inventions, documented in some 30 U.S. patents between 1890 and 1921, have never been utilized as Tesla intended despite their obvious potential for advancing in fundamental ways the technology of modern civilization. Among these lost inventions: the disk-turbine rotary engine, the tesla-coil electric energy magnifier, high-frequency lighting systems, the magnifying transmitter, wireless power, and the



## TESLA'S LOST INVENTIONS

free-energy receiver."—from the front cover.

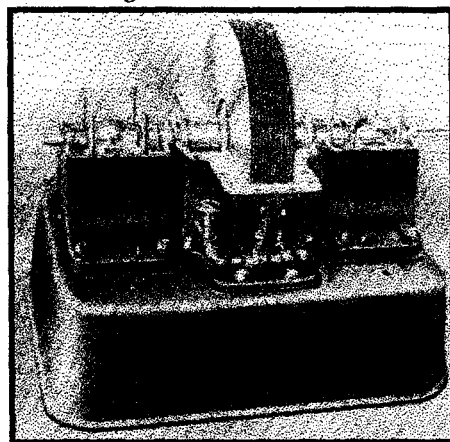
Like Trinkaus's other Tesla book, the only criticism that can be leveled here is that the chapters are too short. Interesting, unusual information, especially if you're just beginning your study of Tesla. Fairly priced. 8 1/2 x 7 booklet 34 pages

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\$5.95

and that the modern world is ignoring one of the greatest inventions ever. You'll have to decide for yourself.

Here you get a collection of articles on the turbine/pump. Chapters include Tesla Gasoline Engine, Sea Power Plant Designed by Tesla, Tesla's New Fluid Propulsion, A Revolution for Electric Motors, New Inventions by Tesla, The Tesla Turbine (articles from *Pop Mechanics*, *Boys Book of New Inventions*, *Prodigal Genius*, others), and more.



You get many photos of applications, reproductions of the original patent plus related patents and much more. You'll get info on the Tesla Engine Builders Association which could open up new avenues of experimentation for you.

This is an offbeat, quality book on an unusual topic. You hear a lot about Tesla's electrical inventions, but little about his machines. Get a copy of this. 5 1/2 x 8 1/2 paperback about 224 pages

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# WIMSHURST PLANS!

## THE WIMSHURST MACHINE HOW TO MAKE AND USE IT

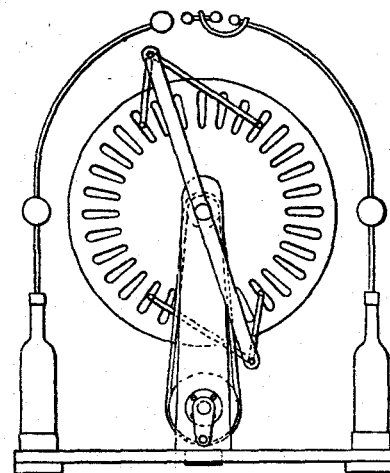
by Alfred W Marshall

reprinted by Lindsay Publications

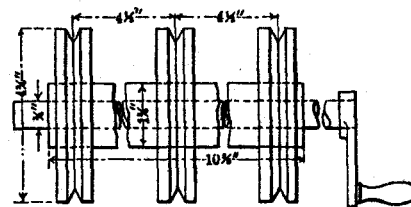
"A practical handbook on the construction and working of the Wimshurst machine, including radiography and wireless telegraphy, etc., and other static electrical apparatus."

Build yourself a copy of this classic lightning bolt generator. This is no toy! Its 24" plates will knock your socks off—and probably electrocute you if used with Leyden jar accumulators. This is a heavy duty machine.

Chapters include introduction, static elec-



tricity, the electrophorus, the electroscope, condensers, the Leyden jar, parts of a Wimshurst machine, making and management of Wimshurst machine, examples of machines, a large Wimshurst machine, a machine for X-Ray work (dangerous), and experiments with machines.



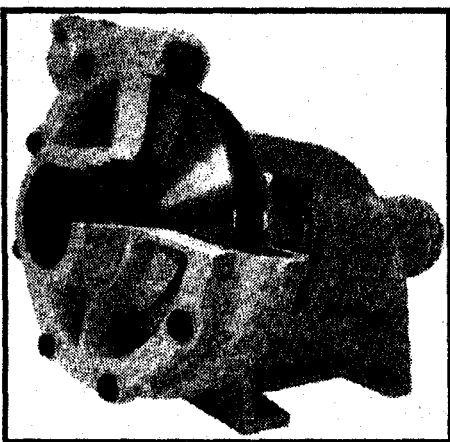
Driving Spindle and Pulleys.

This is a small book loaded with illustrations and wall-to-wall how-to. There are photographs but they are of poor quality. After all, in 1908 not every printer was capable of printing photographs.

This is quite a rare book. You would be hard pressed to find an original copy at any price. But you can have a copy for your library at a reasonable price and use it to build a machine or just to read. Get a copy. Great little book. You'll like it! 4x7 paperback 112 pages

Cat. no. 20331

\$8.95



## Tesla's Engines

### TESLA'S ENGINES

#### A NEW DIMENSION FOR POWER

compiled by Jeffrey A Hayes

I don't quite understand what has happened here. This book was called *Boundary Layer Breakthrough THE BLADELESS TESLA TURBINE*, and was compiled by Jake Possell. The book was expanded, and the name was changed. Even the author's name has changed!? Nevertheless, it's a better book than before, more information with no increase in price.

In 1909 Nikola Tesla applied for a patent on his bladeless steam turbine that could generate ten horsepower per pound of weight. Actually, the patent granted in 1913 was entitled "Fluid Propulsion" because the turbine could also be used as an efficient pump. Today, Tesla fans claim that this turbine is the solution to many of our energy problems,

# HIGH VOLTAGE!



Generation, Applications  
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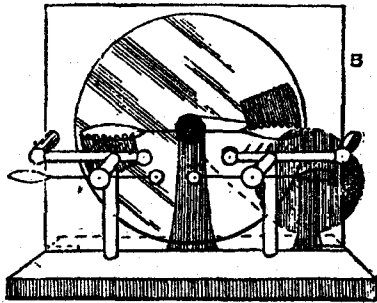
## ELECTRICAL INSTRUMENT- MAKING

FOR AMATEURS  
by S. R. Bottone  
reprinted by Lindsay  
Publications Inc

Go back a hun-  
dred years and build

your own electrical equipment.

You get basic information on materials, soldering, and working glass. Then you build pith ball and gold leaf electroscopes, a Coulomb torsion balance, and Volta's electrophorus static generator. You'll learn how to



## Build Electrical INSTRUMENTS!

take a sheet of glass and cut a circle from it, drill a hole in the center and use it to build Bertsch's high-voltage static generator, Carre's Dielectric machine, a Holtz machine, and a Wimshurst influence machine.

Build a medical coil that produces a 1/2" spark, or a 1" spark induction coil. With a powerful magnet you can make a shocking machine. Build a uni-direction current machine (a motor), a dynamo, an ammeter, a voltmeter, a galvanometer, batteries, a single fluid cell, a double fluid cell, and using these two basic battery configurations how to create powerful batteries using chemicals from zinc chloride and sulphuric acid to sal ammoniac and potassium dichromate which are more commonly known as the Daniell, Bunsen, Smee, Walker cells and others. Then you get simple plans so that you can build a working electrical telephone, the newest technology in 1888.

Obviously so many topics are covered in such a small book that the number pages devoted to each topic are necessarily limited. Nevertheless, you get enough useful information to build working equipment. The illustrations are primitive by today's standards but are informative. Fascinating book! Valuable information! Get a copy. Worth having. 5x7 paperback 183 pages

Cat. no. 4929

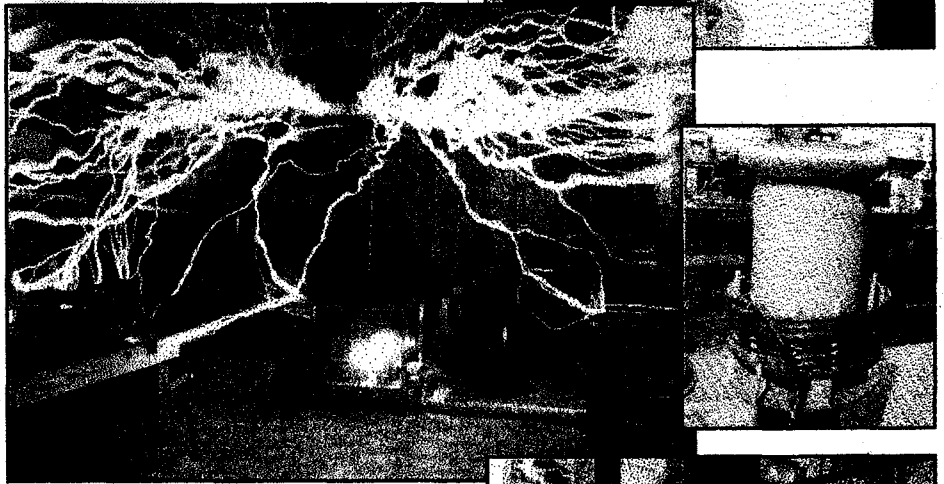
\$9.95

## TESLA COIL BUILDER'S GUIDE TO THE COLORADO SPRINGS NOTES OF NIKOLA TESLA

by Richard Hull

Tesla's notes of his 1899-1900 experiments in Colorado were published in English sixteen years ago in Yugoslavia. Readers had a difficult time understanding them. This book is a guide through those notes, and

## Guide to Tesla's Notes!



better yet, a translation. Even without the original notes, much useable information is provided by Hull a member of Tesla Coil Builders of Richmond Virginia..

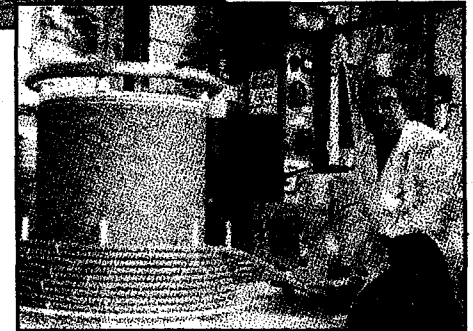
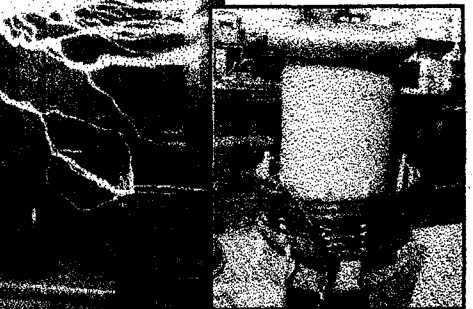
You get loads of detail.

July 24, 1899- "...[Tesla] calculates that the system is oscillating at 164 kHz and then places a 30 inch sphere on the extra coil and records the usual drop in extra coil resonance to 102 kHz with a near tripling of primary capacitance needed to retune the system..." (only part of several large paragraphs)

July 27, 1899- "...Tesla realizes that he can measurably shorten his dwell time and make quenching action much more efficient if he adopts external series spark gaps to help exhaust the arc rather than letting the rotary do all the work..." (much more)

October 3, 1899- "...Tesla's secondary appears to have been slightly altered still. He is now using 17 turns. The first 14 turns are fully double spaced and he then takes two turn triple space or 4 inches apart and the final turn on the insulators is a full 22 1/2 inches above the uppermost turn within the wooden form..." (on and on and on)

You get specifications of the final system design which was used less than fifteen days. Make no mistake about it. This is a BIG system kicking out arcs over thirty one FEET



long! You get details on Tesla's Colorado Springs lab and lots more.

You get a list of other publications, newsletters, videos, and a collection of absolutely impressive photos of giant coils being built and operated by the Tesla Coil Builders of Richmond. When you see what these guys are up to, you'll be itching to get in on the action. Either the notes or the photos are worth the price of the book. Together you get a fascinating book that I think is well worth the price.

Good stuff. But like all good books, it will generate more questions than it answers. That will push you into new frontiers of study and research. Get started. Order a copy.

8 1/2 x 11 plastic spiral binding about 120 to 130 pages

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## TESLA COIL COMPUTER PROGRAM

### JHCTES TESLA COIL NOTEBOOK

by J. H. Couture

This small book is  
a supplement to  
Couture's Tesla Coil

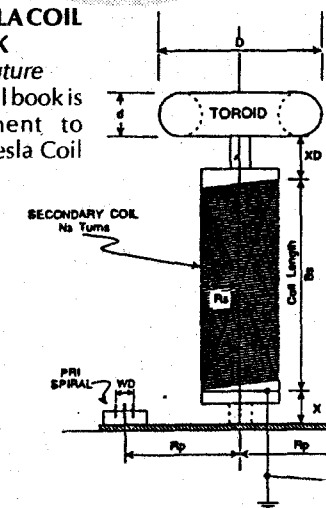
Design Manual and contains  
necessary information for using  
the JHCTES computer program  
sold separately. Each of the 46  
input and output design param-  
eters used by the program are  
explained. Although the infor-  
mation contained is useful by  
itself, this book really constitutes  
the documentation for the com-  
puter program. Expensive but  
useful. 8 1/2 x 11 plastic spiral  
binding 29 pages

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### JHCTES COMPUTER PROGRAM

An easy-to-use computer pro-  
gram that eliminates trial and  
error design. This is for classical  
Tesla coils only. Calculations for



use with extra coils is ignored.  
Two screens – one for input and  
one for output. Operation is sim-  
ilar to a spreadsheet. For IBM  
compatibles running MS-DOS.  
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## TESLA COIL CONSTRUCTION GUIDE

### TESLA COIL CONSTRUCTION GUIDE

by J. H. Couture

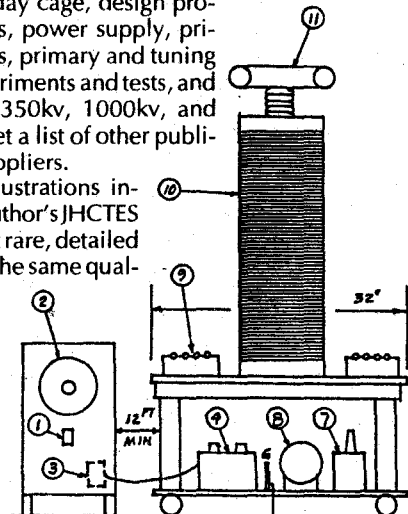
You get a complete revision of Couture's 1988 Tesla Handbook.  
Featured are plans for building five different Tesla coils that deliver  
sparks from one inch to eight feet! Two of these plans are new to this  
edition.

Chapters include introduction, warning, safety, definitions, coil  
theory, radiation and Faraday cage, design pro-  
cedure, computer printouts, power supply, pri-  
mary capacitors, spark gaps, primary and tuning  
coils, secondary coils, experiments and tests, and  
plans for a 70kv, 250kv, 350kv, 1000kv, and  
1500kv system. You also get a list of other publi-  
cations and a source of suppliers.

You get thirty seven illustrations in-  
cluding printouts from the author's JHCTES  
computer program. You get rare, detailed  
information and how-to of the same qual-  
ity as found in Couture's  
"Tesla Coil Design  
Manual." If you're serious  
about building powerful  
coils, this is must reading.  
Consider it carefully. About  
80 pages plastic spiral bind-  
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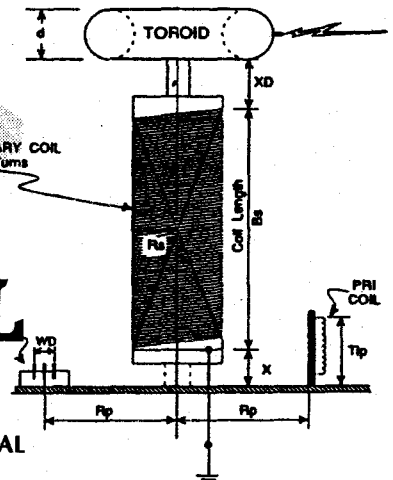


## TESLA COIL DESIGN MANUAL

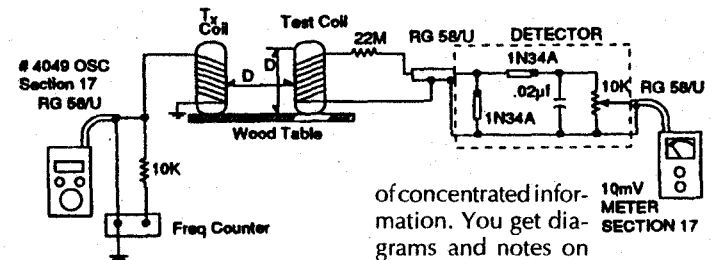
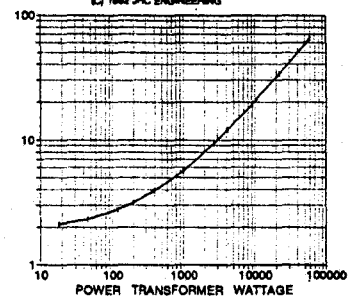
### TESLA COIL DESIGN MANUAL

by J H Couture

With this you get a plastic  
spiral-bound, somewhat expen-  
sive book that delivers unusal  
information. You get 26 sections:  
introduction, warning, ground,  
graphs, Tesla coil theory and  
sparks, transformers, line filters  
and reactors, spark gaps, resis-  
tance, capacitance, inductance,  
voltages, frequency and wave-  
length, Q factor and log decre-  
ment, K factor, hi meg voltmeter,



### SECONDARY COIL INDUCTANCE



hi freq oscillator, inductance  
meter, Q factor meter, mutual  
inductance and K factor, BOX  
electroscope, coil self capaci-  
tance, Tesla extra coil, computer  
programs, and Tesla's world elec-  
trical system.

The author writes, "The Tesla  
Coil Design Manual is the only  
book available today that is based  
on empirical design. Empirical  
design is design based on both  
theory and data from tests of real  
world coils. The 26 graphs are all  
new and have never been pub-  
lished before. Also shown are  
wiring diagrams for easily made  
test instruments relating to Tesla  
coils. I have receive several com-  
pliments from Tesla coil builders  
saying that this book is the best  
presently available for design and  
building Tesla coils..."

In looking through this, I get  
the feeling that you're looking  
through the private notebook of  
Tesla coil fanatic. You get chunks

of concentrated infor-  
mation. You get dia-  
grams and notes on  
valuable test equipment designed  
for use in Tesla coil develop-  
ment. It looks like great stuff.  
But... If you're just a beginner,  
this is probably over your head  
because the author doesn't go  
into lengthy discussions. He as-  
sumes you've built coils, and are  
at least somewhat familiar with  
electrical concepts and some  
math. You had better be comfort-  
able with concepts of imped-  
ance, flux lines, bridges, and  
more. You don't have to be an  
engineer or genius, but be  
warned, this is for the advanced  
experimenter.

Expensive? Yes. Good mate-  
rial? Yes. Should you get one? If  
you're tired of simple stuff, then  
definitely, yes. If you're just be-  
ginning, you may have to grow  
into this. You'll have decide.  
Think about it. Unusual. 8 1/2 x  
11 plastic spiral bound book 77  
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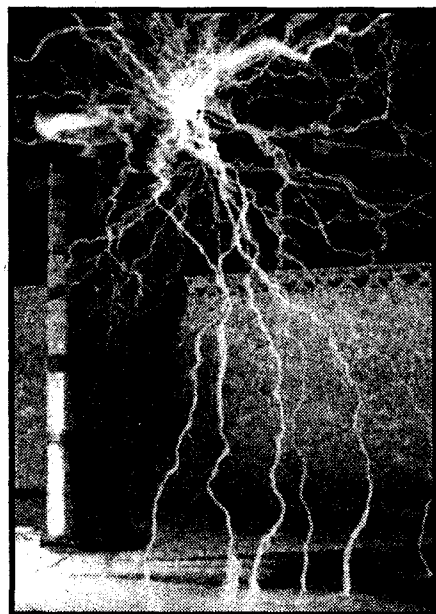
**BUILD YOUR OWN WORKING  
FIBER OPTIC, INFRARED  
AND LASER SPACE-AGE PROJECTS**  
by Robert E. Iannini

From the back cover:

"Here, you'll find plans for such fascinating devices as a high sensitivity laser light detector... a high voltage laboratory generator that's useful in all sorts of laser, plasma ion, and particle applications as well as for lightning displays and special effects... a solid-state gallium arsenide injection laser system capable of producing 4- to 30-watt peak power infrared pulses at 200 to 2500 pulses per second... an infrared viewer that has functions ranging from nighttime surveillance to viewing IR laser beams..."

"Robert Iannini is an electrical engineer and inventor. He holds numerous patents on such products as electronic and ultrasonic insect and pest control devices, stay-awaked devices for drivers, and other high technology devices..."

You get fourteen different projects, twelve of them being laser devices. But even chapter fourteen oughta fire ya up! He'll show you how to build a DC power supply capable of delivering microamps of current at voltages adjustable from 35,000 to 250,000 volts! This is not a Tesla coil.



## SPACE AGE PROJECTS Lasers, High Voltage, More!

This is similar to the high voltage supply in a TV set with a voltage multiplier attached. The voltages produced are so high that generation of X-Rays becomes a very real danger when using this machine. You have to be careful.

You get schematics, diagrams, step-by-step how-to, safety precautions and more. Unusual how-to, to say the least!

Imagine! The next time you catch raccoon digging through your garbage cans, you can nail them with a laser! Fry the roaches under the kitchen sink! Clobber that snake the comes slithering out of the toilet bowl and scares the hell out of your mother-in-law. (On the other hand, let the snake be. He's too much fun...)

Get a copy of this, build yourself a laser and a lightning bolt generator. Strange, hi-tech stuff. Go for it! 7 1/2 x 9 paperback 262 pages

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## Tesla Coil Handbook

**TESLA COIL HANDBOOK**

by Todd A Pringle

"Introduction to Theory, Design and Construction of Air-Core Resonating Transformers".

So much of what you find published on Tesla coil construction is just a rehash of past projects. The accounts are often badly polluted with mistakes, completely wrong rules-of-thumb, and old-wives' tales. Many plans will actually take you down in the wrong path.

Pringle, an electrical engineering student, has done an excellent job of clearing the air. He'll hit you with theory that is accurate but not overpowering. You'll learn the truth about coils and the problems often faced in their construction - problems that often interfere with optimum operation of the coil yet are not even suspected by the builder.



You'll learn about 1/4 wave principle, the Ferranti rise, capacitors, power transformers, spark gaps and all the other components of a coil. You'll learn about design parameters and procedures, tuning and operation, sample design, and more.

(If you don't know by now, Tesla coils can be dangerous and downright lethal. The author just for good measure throws in a set of plans for a Jacob's ladder should you decide you don't understand enough to safely build a coil.)

And you get plans, specs, wiring diagrams, and a couple of photos of a coil with a 40" x 4"

secondary coil capable of throwing 28" sparks. The info on this coil alone is worth the price of the book.

You get formulas, simple explanations of complex theory, advice from someone who has built a coil and who has far more theoretical background than most of us, plans, and suppliers of parts, and valid coil theory.



You get quality. This isn't the biggest book, the cheapest, or the most professional in appearance, but you get value. This delivers accurate information without the BS so often seen in other Tesla coil publications. I hope this becomes just the first step in a series of Tesla coil books from Pringle. I think you'll like this. Worth having. Order a copy! 8 1/2 x 11 booklet binding 60 pages

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# HIGH VOLTAGE!

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## THE DESIGN & CONSTRUCTION OF INDUCTION COILS

by A. Frederick Collins

Inside the cover of this 1908 classic is the author's statement:

"The present work treats of eight different sizes of coils, varying from one giving 1/2-inch sparks to a large one giving 12-inch sparks. These various sized coils are included in three specific designs, and I have tried to tell in easily comprehensible language each process in sequence, together with the dimensions of each part down to the smallest screw...."

Here you get one of the best books I've ever seen on coil construction.

Twenty chapters delve into the theory of the coil and the action of each of its components, design of spark coil cores, choosing interrupters, details of condenser design and size, and more. Wire is discussed along with its cutting, straightening, annealing, the making of the paper tube, bundling and taping wires for large cores, and more.

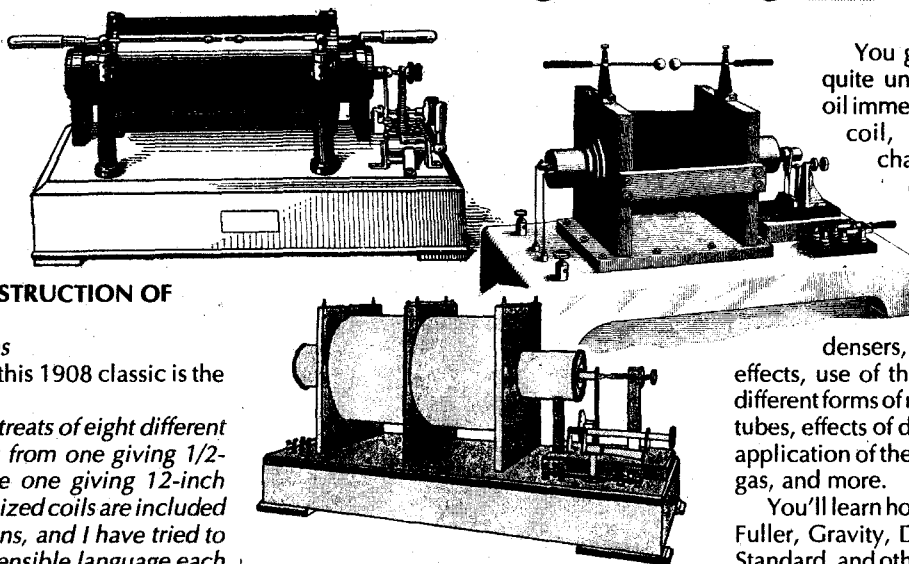
Detailed discussions reveal the advantages of silk versus cotton-covered magnet wire, mounting the spool in the lathe, winding the primary, the winding of helical secondaries, construction of aperture insulating rings, and much more. You'll learn how to dip the coil and bake it, build a vacuum apparatus to impregnate the apparatus, to dry the insulation, machine the parts for a simple spring interrupter, assemble the parts, mount the finished device, and more.

You'll learn about making tinfoil and paper condensers, adjustable mica condensers, reversing switches, and much more. You get wiring diagrams for various coils, final assembly details, sources of direct current including dry cells, plunge batteries, chloride accumulators, and more.

This is a really a great book. You get more useful data in one place on building coils than you'll usually find in a dozen other books. Tesla coils are fun and fascinating, but so is the induction coil. Build one. Experiment. Have fun. Show your friends. Brag about it. Get a copy of this! Highly recommended! 5 1/2 x 8 1/2 paperback 272 pages - well illustrated

Cat. no. 20404

\$12.95



## INDUCTION COILS HOW TO MAKE, USE AND REPAIR THEM

by H S Norrie

reprinted by Lindsay Publications Inc

Although this classic work first appeared in 1896, this fourth edition was printed in 1907. And it's just that - a classic. Although this covers much the same information as others, you get a different slant, a different point of view that you will find useful.

Chapters include Coil Construction, Contact Breakers, Insulations and Cements, Condensers, Experiments, Spectrum Analysis, Currents in Vacuo, Rotating Effects, Gas Lighting, Batteries for Coils, Storage or Secondary Cell, Tesla and Hertz Effects, the "Roentgen" Rays and Radiography, and Wireless Telegraphy.

## THE CONSTRUCTION OF LARGE INDUCTION COILS A Workshop Manual

by A. T. Hare

reprinted by Lindsay Publications

Tesla coils are essentially air-core, high-frequency, resonant transformers. Induction coils are iron core transformers that run at a lower frequency with little thought being given to resonance. But do they ever work! A well-built induction coil can knock your socks off with greater power than a Tesla coil and at very high voltage.

Build a big coil! One with a core 18" long that is almost 1 3/4" in diameter and weighs almost eight pounds. The secondary is made up of over 79,000 turns of very fine wire weighing 19 pounds and being almost 17 miles in length!

Chapters include: the core, the primary coil, the main insulating tube, the condenser, the commutator, the break, the secondary

# INDUCTION COILS! High Voltage AND Power!

You get information, some of it quite unique, on Ruhmkorff coils, oil immersed coils, a disruptive Tesla coil, medical coil with interchangeable secondaries, mercury vibrators, Wehnelt interrupter, adjustable cone vibrator, insulating compounds, Leyden Jar construction, glass plate condensers, adjustable condensers, experiments with luminous effects, use of the spectroscope with coils, different forms of mercury air pumps, Geissler tubes, effects of discharges in rotating tubes, application of the Ruhmkorff coil for lighting gas, and more.

You'll learn how to build batteries: Grenet, Fuller, Gravity, Dun, Gethis, Gordon, New Standard, and others. Learn how to build and use secondary, or storage batteries. Investigate the "Tesla" effects, the use of high frequency currents in electro-therapy, ways of generating X-Rays (very dangerous), the construction of a very early wireless set using a coherer detector, and much more.

If it has any fault, it's that the author has tried to cover too much material in too small a book. You'll find many illustrations. They aren't all that spectacular but you do get 79 drawings, and 8 tables. This is a book that should be in every high voltage experimenter's library. It IS a classic. The reprint will cost you less than the cost of an original if you can find one. Get a copy. Worth having. 4 1/2 x 6 paperback 288 pages

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coil, the winding, mounting the discs, outer insulation, covering and finishing, hand breaks, electrolytic breaks and more.

You get 35 drawings showing everything from the general layout of components to the procedure of applying insulation to the main tube. You'll learn how to build the capacitor, how to build and adjust the break, and even how to build a unique machine to coat wire with paraffin to improve its insulating qualities.

If you build this monster and fire it up, just let me know so that I don't call the fire department by mistake! And if you try to hook it up to an X-Ray tube, I'm leaving the country! Excellent book. Rare how-to! A "must have" for all apprentice mad scientists. Build one of these machines, and scare the hell out of everyone! 5 1/2 x 8 1/2 paperback 155 pages

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# HIGH VOLTAGE!

Generation, Applications  
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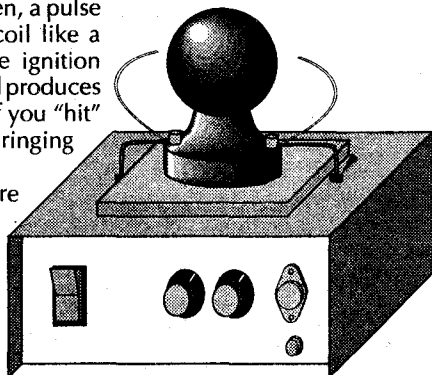


## HOW TO BUILD A 40,000 VOLT INDUCTION COIL by Walt Noon

Are you looking for a fast and simple way to generate high voltage? Then you should build this nifty little device. All of the parts should be available in your area, and depending how much experience you have building electronic equipment, you should be able to bolt it together in a few hours.

As you already know, the ignition coil in your automobile is the modern equivalent of an old time induction coil. It is nothing more than a transformer that converts low voltage into very high voltage. The points in your automobile replace the old fashioned spark gap. Every time the points open, a pulse of DC current hits the coil like a hammer hits a bell. The ignition coil "rings" like a bell and produces a burst of high voltage. If you "hit" the coil fast enough, the ringing seems to be continuous.

Walt Noon's circuit here replaces the spark gap and the points with a low cost solid state circuit. The circuit takes 110 VAC out of your wall and converts it into a string of DC pulses. The



**BUILD A**

# 40,000 VOLT INDUCTION COIL

pulses are sent to the terminals of an ignition coil that you can purchase at your local discount store. Off the high voltage terminal comes a solid 40,000 volts that can be used for a variety of experiments including plasma globes and Kirlian photography.

The circuit, based on a 555 timer integrated circuit, provides pulses with adjustable power and frequency. This allows you to easily tune the pulses to the natural resonant frequency of the coil which will significantly increase the output voltage.

You get drawings of the unit, parts list, circuit diagram, photos and assembly instructions for the coil. You are expected to have at least some experience building modern electronic equipment with perf board. You get hints, tips and suggestions on where and how to make circuit modifications.

Probably best of all, Walt includes eight different experiments plus extensive details on Kirlian photography. He'll show you how to modify an inexpensive 35mm camera to take these unusual photographs in color and black and white. You also get six Kirlian photographs taken with the equipment he shows you how to build.

If you want to try your hand at high voltage experiments, this might be just the way for you to "cut your teeth", and it's something you'll be proud to show your friends. And it's a good way to literally shock the pants off them! Get a copy of this. It's unusual. It's well written. And it's inexpensive. You'll like it. 5 1/2 x 8 1/2 booklet 24 pages Cat. no. 844 \$4.95

# LIGHTNING BOLT Generators!

SECRETS OF BUILDING  
ELECTROSTATIC LIGHTNING  
BOLT GENERATORS

by Walt Noon

You can generate high voltage with AC transformer devices like the induction coil and Tesla coil, or you can make lightning bolts with electrostatic DC devices like the Van de Graaff generator. Walt Noon, the frenetic electrical experimenter, shows us some of the things he's discovered in his quest for high voltage.

He'll show you and explain the experiments he has run, the problems he has encountered, his solutions to those problems, ways to build low cost lightning bolt generators, ideas that yet need to be explored and much more.

If you're looking for a heavy, theoretical text or a step-by-step construction manual, then this won't cut it for you. BUT! if you want general instructions that will allow you to build high voltage machines out of what you have on hand, and then improve them, you need this.

Walt covers the electrophorus, his Rotostatic generator, his bizarre "Cat-o-Static" generator, motor speed controls, external Van de Graaff generators, the classic internal Van de Graaff generator, ideas for an extremely high voltage Van de Graaff, inductive electrostatic generators, the Dirod generator, and more.

You'll find the equipment Walt has used to measure the voltages he has generated including his FET electro-

*including high voltage  
test equipment,  
experiments, motors  
and more!*

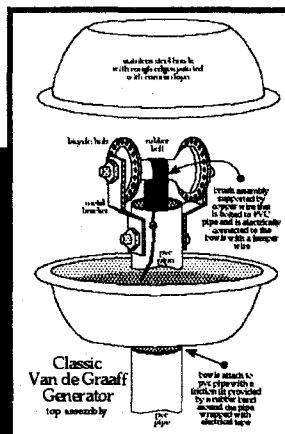
scope, neon lamp banks, spark gap volt meters, and more. Walt will show you how to build storage capacitors along with details of his successes and failures.

You get a list of interesting experiments to perform from something as simple as making your hair stand on end to building a "perpetual motion" machine. You'll learn about a variety of ion motors, ion blowers, the Franklin electrostatic motor, the Poggendorff Corona Motor, and even capturing free electrical energy from the atmosphere (Ben Franklin did this, and it almost killed him!) As a bonus Walt will show you how he electroplates metal onto non-conducting forms to build low-loss high voltage terminals!

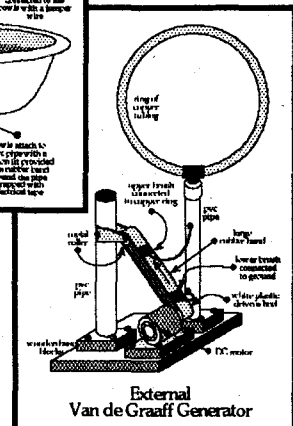
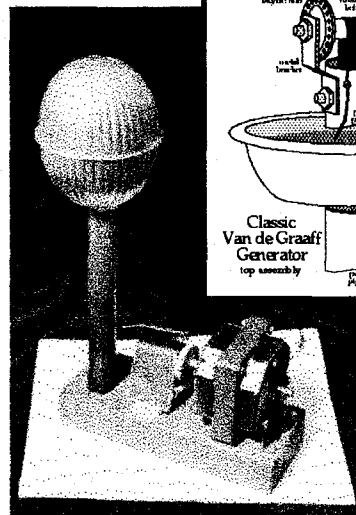
Walt is not a scientist nor a fantastic author. But he will clearly and humorously explain some of the crazy experiments he's tried and hopes you'll improve on. You get an easy-to-read text loaded with photos and drawings. You'll find that it's really quite easy to get started in electrostatics, and Walt's book

will get you going!  
Excellent book!  
Worth having. Get  
a copy. 5 1/2 x  
8 1/2 paperback  
91 pages  
Cat. no. 20900

\$8.95



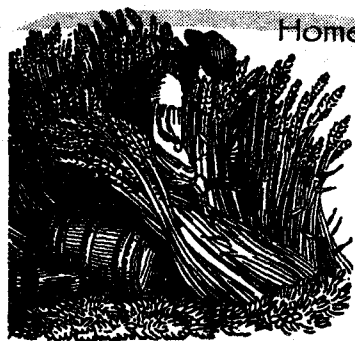
Classic  
Van de Graaff  
Generator  
top assembly



External  
Van de Graaff Generator



Homesteading, Survival, Alternate Energy, and more....



## Samson Windmills

### SAMSON OIL-RITE WINDMILLS

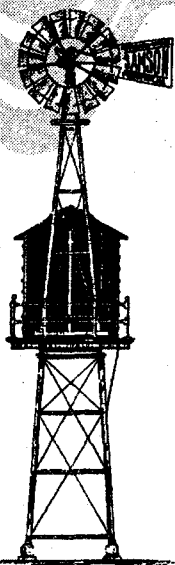
by Stover Mfg. and Engine Co.

Just about every farm at the turn of the century located in the Midwest and Plains states had a windmill to pump water for livestock. Here's the sales catalog for one of the leading manufacturers of those mills.

You'll see all the mechanical details: the gears, bearing, vanes, pumps, and the rest. And you'll get complete specifications.

If you're interested in wind power, this is a great reference, since these mills were built to perform and last. I'm sure many are still in operation. If you're going to design your own windmill, it might pay to look at a proven design. And besides, the price is right. 8 1/2 x 11 booklet facsimile reprint 22 pages

Cat. no. 2011



\$4.95

## Windpower Handbook

### WIND POWER FOR HOME & BUSINESS

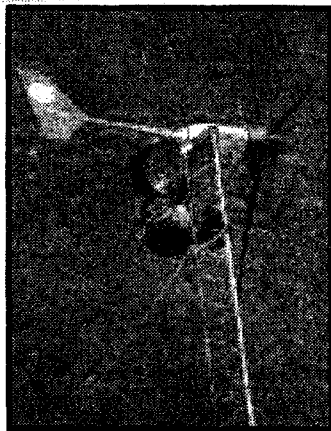
Renewable Energy for the 1990s and Beyond  
by Paul Gipe

From the back cover:

"This is the most comprehensive guide to modern wind machines available. These rugged, cost-effective designs are suitable for homeowners, farmers, and small business owners already served by electricity, as well as for those who want to live 'off the grid,' beyond the reach of utility lines. Whether powering all or only a portion of a user's needs, modern wind turbines make economic and environmental sense today....

It explains how to measure the wind, how to estimate the output from typical wind turbines, how to evaluate the best technology for each application, and how to install and operate a small wind power system safely...."

Chapters include introduction, how to use the wind, measuring the wind, how much to expect, does wind pay?, what works and what doesn't, towers, cutting costs - not corners, buy-



ing a wind system, interconnection with the utility, stand-alone power systems, pumping water, siting, installation, operating and maintaining a small wind system, safety, looking to the future, and appendixes.

You get a well-written information-packed book that will deliver loads of information. The price is a bit high for my taste, but this delivers useful information. It could save you a lot more money than it costs. Consider it carefully. 6x9 paperback 413 pages

Cat. no. 2030

\$35.00

# WINDMOTORS

## WINDMOTORS

by F. E. Powell

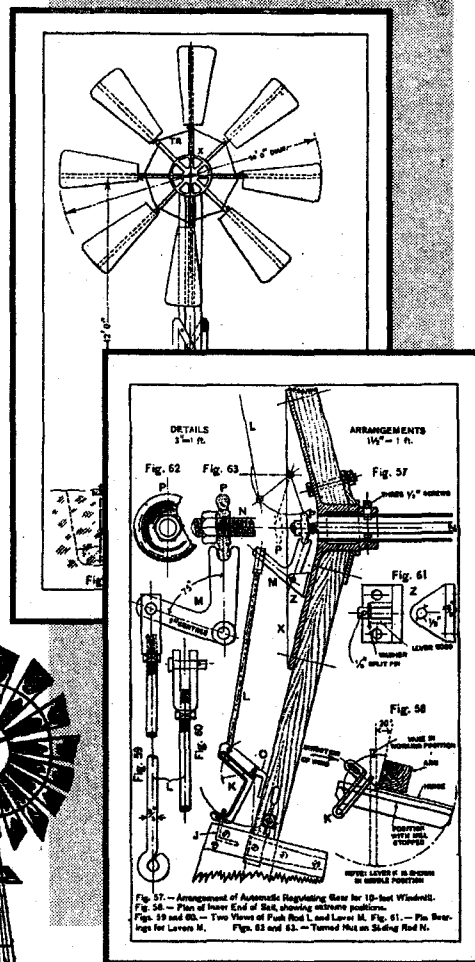
reprinted by Lindsay Publications

Put the wind to work with one of these turn-of-the-century designs.

You'll learn about different types of windmills, some of them unusual. Then you'll be shown how to build a model tower windmill similar to those in Holland.

Chapter 3 will show you how to build a real power-producing windmill with three foot diameter sails. It may be a small windmotor, but it can drive a small dynamo. You get all the important design details.

In Chapter 4 you are shown how to build a 6 foot diameter windmill capable of driving a 30 watt dynamo at 16 mph. You'll see many detailed drawings showing how the



all-wood machine is built, and how metal gearing brings the power down to ground level.

Another chapter reveals a 10 foot diameter windmotor. The last chapter gives you tips on generating electricity—high tech in 1910! Obviously better gen-

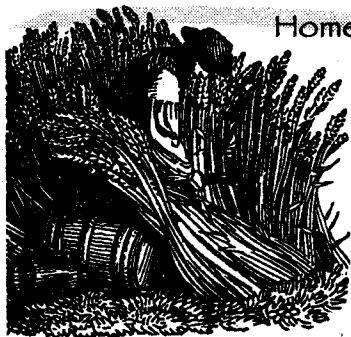
erators are available now, but the basic principles still apply, and the control methods still work.

I think you'll enjoy this book. These mills may not be as hot as modern designs, but building one of these babies should be relatively easy and low-cost. You get great designs from a simpler time when simpler materials were used to get surprisingly good performance.

A really nice little book to have. Low cost. Get a copy. 5 1/2 x 8 1/2 paperback 88 pages well-illustrated

Cat. no. 4279

\$6.95



## LOW-COST DOUBLE CARPORT PLANS

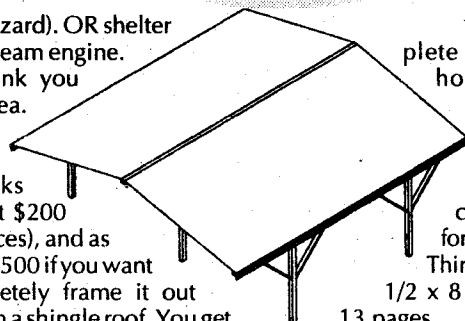
by Ken Dixon

Dixon will show you how to build a low-cost shelter consisting of a sturdy frame covered with a tarpaulin. It will provide a surprising degree shelter for your car. OR shelter for logs you may have drying. OR shelter for your outdoor foundry furnace (watch

## You can Put More Than Just a Car in a Car Port!

the fire hazard). OR shelter for your steam engine. OR, I think you get the idea.

Estimated cost looks like about \$200 (1993 prices), and as much as \$500 if you want to completely frame it out and put on a shingle roof. You get a well-done booklet with com-



plete plans and how-to from someone who has done it. A great low-cost shelter for a craftsman. Think about it. 5 1/2 x 8 1/2 booklet

13 pages  
Cat. no. 5007 \$4.95

## BUILD A SOLAR OVEN!

### COOKING WITH THE SUN

by Beth & Dan Halacy

You can make a simple solar cooker that can reach temperatures up to 400°. You get detailed instructions on building an oven using plywood, fiberglass insulation, windowglass and other common hardware. You also get detailed instructions on building a solar "hot-plate" from cardboard and aluminum foil. You also get pictures and descriptions of several other ovens.

### Oven construction

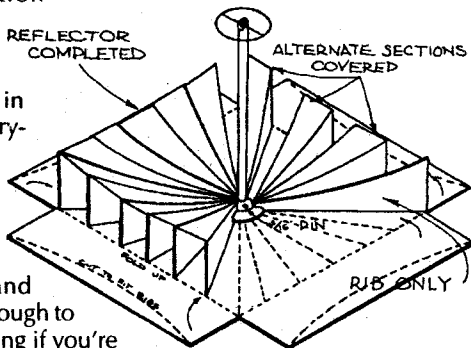
takes up about 44 pages while the rest of 114 pages covers recipes you can use in your solar oven - everything from bread to casseroles.

Even if you're not interested in cooking, the book is low enough in price and plans are detailed enough to make this worth having if you're interested in tapping into solar energy. Maybe you could scale this up in some way and boil water to heat your house or your alligator pool. Maybe you could lash a steel chair to focal point of one of these cookers and threaten to fry the local street-corner toughs! Wouldn't that make a strange law-enforcement tool?

Good book. These are proven plans. Use as is, or as a starting point in your own experimentation. Think about it. 7x10 paperback 114 pages

Cat. no. 2031

\$7.95



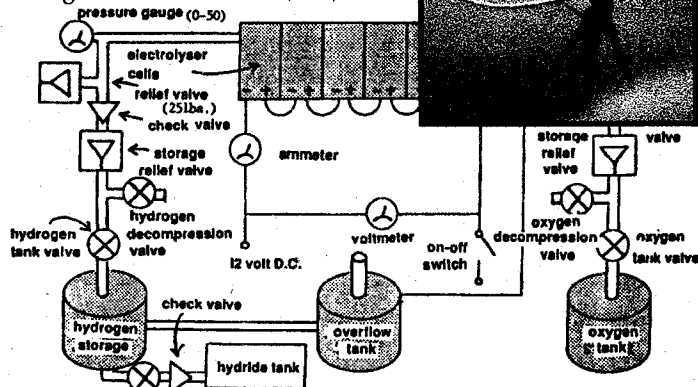
## FUEL FROM WATER

Energy Independence with Hydrogen

### FUEL FROM WATER

by Michael A. Peavey

Here's the best book of its type that I've seen yet. You'll read about hydrogen generators, storage devices, modifications of autos for using hydrogen fuel, the hydrogen homestead and more. You get lists of manufacturers, other



books, and sources of additional information.

Chapters include electrolysis production of hydrogen, chemical hydrogen production, fuel from trash, storing hydrogen, engine modifications, electricity from hydrogen, stationary applications, safety and the hydrogen economy.

You get both practical how-to and lots of commercial how-to that might be too expensive or difficult for you to use. But even the high end equipment will offer ideas that you might be able to use.

Hydrogen can be useful not

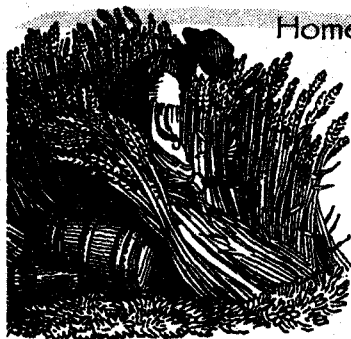
only for powering automobiles and other engines, but it can be used to store energy generated by windmills. Why store electricity in lead-acid cells if you just want to heat your house? Burn the hydrogen in a motor-generator unit to convert it back to electricity when needed. These are some ideas to consider.

Excellent book. Great theory. Great ideas. Loads of useful illustrations. We've sold countless copies of this book over the years. Rare information. Get a copy. I think you'll like it. 8 1/2 x 11 paperback 250 pages

Cat. no. 2010

\$19.95





### COOKING WITH DRIED BEANS

by Sara Pitzer

Beans are nutritious and low cost. You get information on growing your own beans, washing, soaking, simmering, and even pressure cooking. Recipes include *Many Bean Soup*, *Pureed Bean Soup*, *Split Pea Soup*, *Black Bean Soup*, *Minestrone*, *Cassoulet*, *Louisiana Red Beans and Rice*, *Lentil-Rice Stew*, *Kidney Bean Stew with Spoonbread*, *Boston Baked Beans* and more!

Great little booklet. Get one! 5 1/2 x 8 1/2 booklet 32 pages  
Cat. no. 2020 \$2.95

### HOT & SPICY CHILI

by DeWitt, Wilan & Stock

"A Collection of 150 of the Very Best Chili Recipes from the Chili Capitals of America."

This is one of the two best chili books I've ever seen.

Try "Ed's Buffalo Snort Green Chili", "Cock-Eyed Black Bull Chili", "Snake Rattle & Roll No-Beans Chili", or even "Buzzard's Breath Chili". Most of these recipes have won awards



## This Chili Might Make You Do Strange Things!

in chili cook-off contests, and although I've haven't tried them yet, I can tell they've got some twists, turns and secrets that are well worth experimenting with.

Contents include the evolution of chili con carne, chili cookin' pantry and primer, cookoff chilis, southwestern chilis, chilis of celebrities & friends, starters, accompaniments and fine finishes. You also get an appendix listing publications, associations, cookoffs, mail-order suppliers, and a bibliography of other publications.

The recipes are valuable but so is the philosophy up front. What type of meat should you use? Exotic? Or just beef and pork? Should it be coarse ground or cubed? Should

it be tough meat? Or the best cuts? The same kind of debate continues with all the ingredients. These details are the true secret ingredients.

The last chapter will show you how to make "Watermelon Ice," "San Antonio Strawberry Pie," "Chimayo Chocolate Cake" and other desserts.

Get a copy of this and start cooking. Serve you and your friends a bowl of hot, tasty chili and wash it down with a bottle of top-rate homebrewed ale. You'll be famous. Good eating. Try it. 7 1/2 x 9 paperback

277 pages  
Cat. no. 6068

\$12.95

## Make Great Cheese!

### CHEESEMAKING MADE EASY

by Ricki & Robert Carroll

Make your own cheese! Good stuff! The authors will tell you how, in easy-to-understand terms - from

simple Cottage Cheese and Mozzarella to delicious Blue, Gouda and Colby cheese. You'll be surprised how easy it is. How little equipment you'll need. How inexpensive, particularly if you have a source of

licious the results, even on your first attempt. Choose your favorites from sixty different varieties.



cow's or goat's milk. And how de- 8 1/2 x 7 paperback 136 pages  
Cat. no. 653 \$9.95

Great book! Great photos, drawings and recipes.

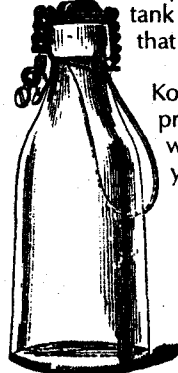
Get a copy. A skill practiced for centuries, but one that few people know. But you will. Order today.

## Make Soda Pop!

### SODA POP!

Make your own soda! It's easy! And it's great soda!

Build this remarkably simple device using hardware store components, hook it to a bottle of carbon dioxide, and you're ready to make soda. The major expense is the CO2 tank and its regulator. But you'll quickly recover that cost in a single summer.

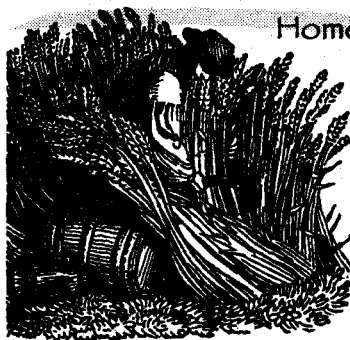


You can make great root beer, carbonate Kool-Aid, Coca-Cola, and other drinks at bargain prices. You can make gallon after gallon of soda water for ice cream sodas or for mixing with your favorite scotch. Experiment!

It's one of the most useful and popular machines (at least with the kids) I've ever built. A single small tank of CO2 last me about a year, and that's an ocean of soda. Each jug is very inexpensive. Get a copy, and build a soda pop machine! 5 1/2 x 8 1/2 booklet

22 pages  
Cat. no. 88

\$3.00



Homesteading, Survival, Alternate Energy, and more....

A Storey Publishing Book

# HOMEBREW FAVORITES

*A Coast-to-Coast  
Collection of more than  
240 Beer and Ale Recipes*

Tripple Tipple • Absently Amber • Zyme Urge  
Wrecking Ball Bitter • Cerveza Navidad  
Hibernian Crude • Smoked Mongrel Ale  
Black Dwarf Imperial Stout • Rhino Porter  
Taken Liberties Ale • Old Hag's Pale Ale  
Tooth & Nail Ale • Al's Pseudo-Lambik  
Of Frustration Porter • Orange Antler Ale  
French Border Garde • Kestral Porter  
Stormbrew Hooch • Down-N-Out Stout  
Bullhead Fury Pale Ale • Little Red Pills  
Brother Ray's Bald Monk Belgian

**Karl F. Lutzen &  
Mark Stevens**

## HOMEBREW FAVORITES

by Lutzen & Stevens

"A coast-to-coast collection of more than 240 beer and ale recipes."

So you've located a source of brewing supplies, and you have your fermenting barrel and your glass carboy ready to go. Now just a combination of ingredients are you going to use? Just throwing malt and hops together is more than likely going to result in a brew something akin to toad snot. You hafta start with a recipe more-or-less proven and go from there.

Here are more great home brew recipes than I've ever seen in one place before. You can make just about any type of beer you want from light pilseners to syrupy stouts.

# Incredible Beer Formulas!

Many beer fanatics brew beer from grain. But brewing from extracts results from only a slight decrease in quality. The fact is you can actually brew better beer from extracts than you can buy (at least here in the states.) And all the recipes in this book appear to be extract recipes - prize winning recipes at that.

If you like beer, and I mean, you drink beer because you like it, not because its "the

thing to do," then it's time to brew your own. This is a book that will help you produce a brew that will knock the socks off your neighbors and friends and solidify your reputation as a magician who can do anything. Anyone who enjoys brewing needs to have this book on his shelf for reference. Great recipes to use as is, to modify, or to refer to for ideas. Get a copy. 6x9 paperback 250 pages  
Cat. no. 6072

\$12.95

## COUNTRY WINES

by Vargas & Gulling

"Making & Using Wines from Herbs, Fruits, Flowers & More."

Here's a collection of newly developed wine recipes that you can use to make excellent wine from apples, black berries, blue berries, clove & ginger, dandelion, wheat, clover, mari-golds, sage, potatoes and more.

You get a complete chapter on making meads and metheglins from honey.

In the second half of the book you get recipes for cooking with wine.

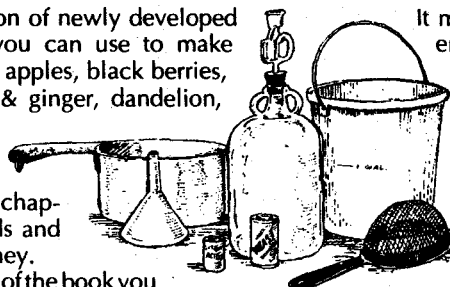
I have two problems with the book. First, it's a bit expensive. Second, the authors tell

you to use table sugar. I'll tell you to never use table sugar. Use only corn sugar.

It makes an enormous difference in quality. If you make that change, and use the recipes, you'll get great wine. The raisin wine recipe I used is excellent, and the ladies sure seem to like the results. I haven't tried the other recipes, yet, but if they're half as good, the book is worth having

for the home vintner's library. Consider it carefully. 6x9 paperback 170 pages  
Cat. no. 6069

\$12.95



## BREWING THE WORLD'S GREAT BEERS A Step-by-Step Guide

by Dave Miller

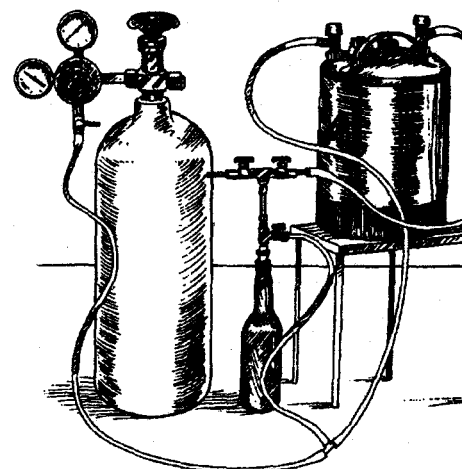
If you drink light beer out of a can because you think beer has to taste like aluminum, this book is certainly NOT for you. This is for people who want to brew and drink great beer. This book will show you how to come extremely close to duplicating the world's finest beers. You'll learn how it's done step-by-step right here.

Chapters include getting started, steps to

# Brew Great Beer!

better brewing with malt extract, first steps in grain brewing, the last step: all grain brewing, going semi-pro, glossary, bibliography, and sources.

This is full tilt. No simplification. You can brew a quality pale ale, a pilsner, or you can jury-rig an old refrigerator and get into lagering. You'll learn all the details of yeast, malt and measurements in degrees Lovibond, sugars, hops and their AAU's, all the equipment and techniques. If you really get into this, you'll learn the intricate technique of maintaining pure yeast cultures just as the

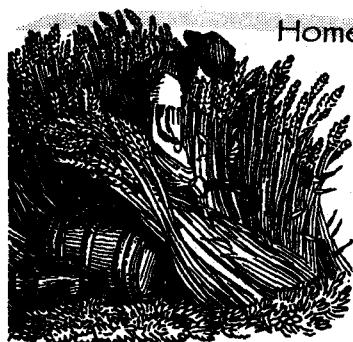


labs in the biggest breweries do and lots more.

You can make great ale, stout, porter, German ales, weizenbier, Munich dunkel, helles bock, and much more. You'll probably want to make some of your own brewery equipment. Your wife just might use the rolling pin on you when she finds you've turned the basement into a giant chemistry set, and when she finds that you and your friends are rarely sober anymore. But doesn't it sound like fun?

You get sources for brewing publications, associations, equipment, supplies and all the rest. This is one of the best brewing books I've seen yet. Well illustrated. An absolute must for the beer snob who dreams of brewing the best. Consider it while I open a brew. 6x9 paperback 150 pages  
Cat. no. 6047

\$12.95

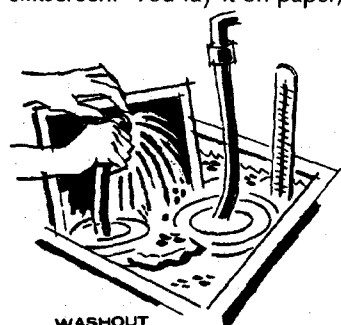


## SILK SCREEN PRINTING

COMPLETE BOOK OF SILKSCREEN PRINTING PRODUCTION

by J. I. Biegeleisen

Take an old picture frame, cover it with cloth, glue a stencil to it, and you have a primitive silkscreen. You lay it on paper,



WASHOUT



cardboard, or a tee-shirt, put thick ink on the other side and use a squeegee to force the ink through the stencil. You've printed your design. It's that simple.

You can print signs, shirts, decals, wallpaper and much more without expensive equipment. This book will show you how to do everything from building the simple frame to multi-color printing.

Silkscreen is versatile and low cost. It's a skill you should have. Here's a dirt cheap book that will show you how.

5 1/2 x 8 1/2 paperback 253 pages illustrated  
No. 424 \$5.95



## MAKE SAUSAGE!

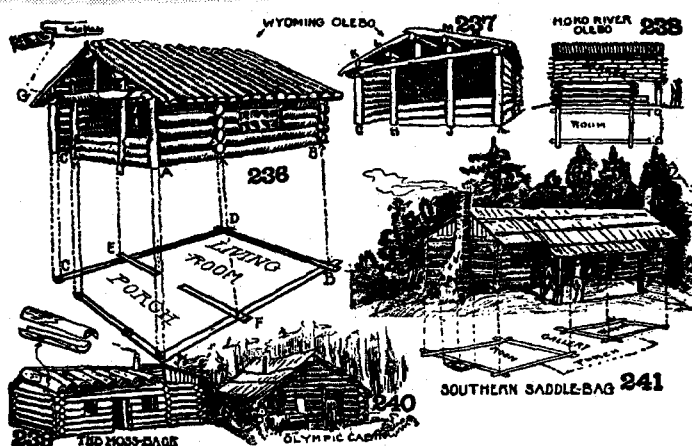
HOME SAUSAGE MAKING

by Charles Reavis

Make great mouthwatering sausage! Over 32 types - both fresh and cured. It's all here! Make summer sausage, Genoa salami, mild salami, bratwurst, frankfurters, bologna, kielbasa, Braunschweiger, chicken sau-

sage, and varieties from bison, squirrel, opossum, rabbits, and even fish! You get over 175 recipes in this great how-to manual and cookbook! Order a copy.

8 1/2 x 11 paperback 168 pages  
Cat. no. 635 \$13.95



## Shelters, Shacks & Shanties!

SHELTERS, SHACKS AND SHANTIES

by D. C. Beard

D C Beard wrote American Boy's Handy Book in 1882, and it became a classic. It has been reprinted and has appeared in the pages of this catalog. In 1908 Beard helped found the Boy Scouts of America.

In 1914 Beard produced this well-illustrated and thoroughly entertaining book for boys of all ages (that includes you and me). Now we can shut off our computers and VCRs and learn how to build sod houses, over-water

camp, railroad tie shacks (I can smell the creosote...), Navajo hogans, and log cabins. And Beard will teach use how to use an axe, build a fireplace, lay a fire and much more.

Fun book! Useful. One of these shanties could be a great place to store your mother-in-law when she feels compelled to visit. Get a copy. Reasonably priced. I think you'll like it. 5 1/2 x 8 1/2 paperback 243 pages  
Cat. no. 6056 \$8.95

## Learn to Carve Wood

WOODCARVER'S PRIMER

by John Upton

Woodcarving takes technique and artistry. This book will teach you the basic techniques, and you will have to supply the intensity and practice to make you an expert. (Just about like everything else in life.)



Twenty six chapters will teach what you need to know to get started and turn out impressive work. Chapters include the workshop, power tools for the workshop, hand tools, bench tools, sharpening edged tools, kinds of carvings, designs and techniques, and more.

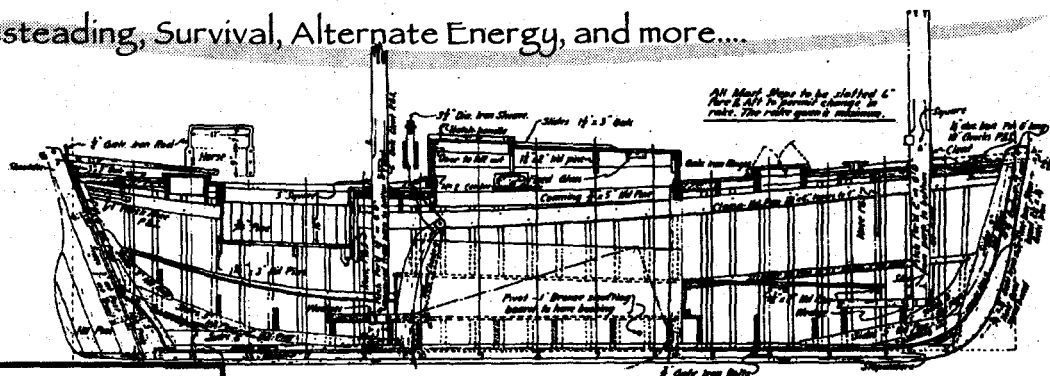
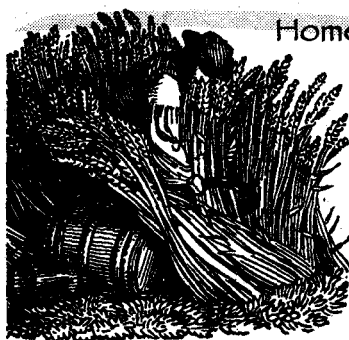
Then you get fourteen different teaching projects including carving a dolphin in the round, carving a Bremen eagle, a federal mirror with eagle, stars and scallop shell, and others. Quite frankly, I think Upton is experienced although certainly not a world-class carver. What makes this book special are the pictures, hints and tips, and good how-to, AND it does so at quite a reasonable price. A great way to start wood carving! Get a copy. 8x10 paperback 160 pages

Cat. no. 455

\$10.95



Homesteading, Survival, Alternate Energy, and more....



## Build a Boat! Classic!

### BOATBUILDING

by Howard Chapelle

Don't even think about building a boat without this 1941 classic. You get detailed text and loads of illustrations, detail drawings and dimensioned plans revealing secrets of building everything from simple flat-bottomed row boats, to a 27' cruisers, a 35' utility launch, and more.

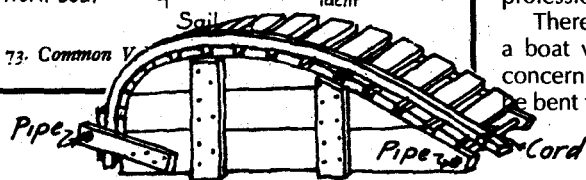
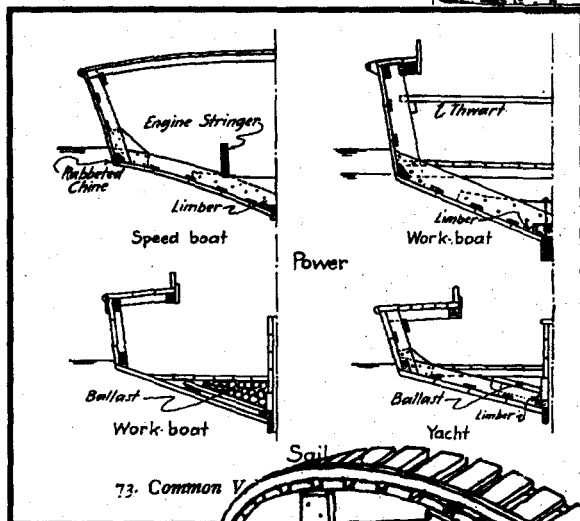
Chapters include plans, lofting, setting up the backbone, flat-bottom hull construction, v-bottom hull construction, round-bottom hull construction, lap-strake and other construction methods, joinerwork, plumbing, installation, sparmaking and finishing. The last chapter talks about taking care of tools and professional building.

There is so much in this book, I think you'd be crazy to even think of building a boat without first studying this. Details make the difference whether it's concerning woodworking joints, canvas seems, or steaming wood so that it can be bent to shape. And it's the details you get.

Big book. A classic. Expensive but worth every penny to the boat builder. Top rate. If boats are your thing, get a copy. 6x9 hardcover 624 pages

Cat. no. 6070

\$39.95



98. Bending Form

## WILL YOU SURVIVE?

### OUTDOOR SURVIVAL SKILLS

by Larry Dean Olsen

From the back cover:

"This is the revised and expanded fifth edition of the classic manual on outdoor survival. Chapters on shelter, fire, water, plants, animals, and special skills explain how to: • build a lean-to; brush, pole, or grass thatch; wickiup; wattlework shelter; snow cave • make fire with flint, bow drill, hand drill, fire saw; make a fire carrier or bundle • obtain drinking water from dew, water pockets, an evaporation still • harvest and prepare food plants in the wild • fashion tools and weapons from stone, bone and wood • make rawhide, tan leather; weave bark and other natural fibers • harvest grasshoppers, ants, grubs; trap, hunt and stalk larger game; make fish hooks, traps and spears"

With this information you can walk into the wilderness with



just the clothes on your back and survive! Some people believe that the wackos in the mid-East might bomb us back to the stone age (to quote Gen. LeMay). It might pay to be ready to live like a cave-man! Native Americans knew these things two centuries ago. But who knows today? You can! Get a copy. Well-illustrated. 6x9 paperback 224 pages

Cat. no. 6041

\$11.95

## Survive in the Woods!

### HOW TO STAY ALIVE IN THE WOODS

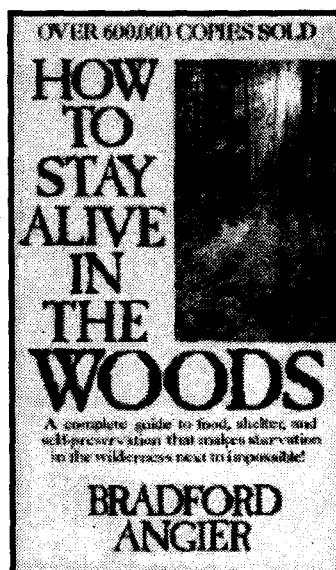
by Bradford Angier

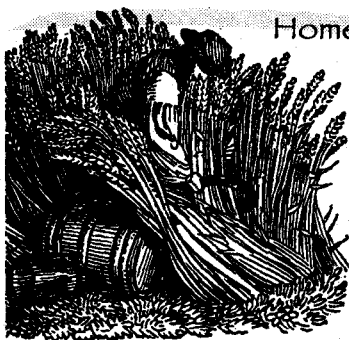
"For over twenty years, sportsmen, hunters, and camping families have been carrying this book with them every time they venture into the woods. It is a life-saving tool which details all of nature's resources and shows — in 26 clearly written, illustrated chapters — how to find food, water, warmth, and shelter when lost or stranded.

The book is full of secrets that can help save time, energy — and even lives. For example, it tells: how to spark a fire by using a drop of water as a lens; how to obtain meat and fish by primitive means; and how to protect yourself against natural hazards..."

That pretty well says it. This "drug-store" paperback is wall-to-wall practical tips and how-to. Lots of quality information for a low price. A classic! Get one! 4 x 7 mass paperback 285 pages. Cat. No. 682

\$8.00

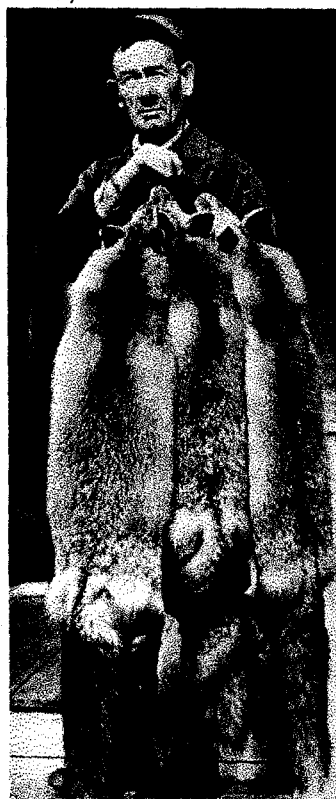




## Tan Hides! Make Leather!

**TAN YOUR HIDE!  
HOME TANNING  
LEATHERS & FURS**  
by Phyllis Hobson

Learn what you need to tan your own leather and fur, and all the steps involved in doing it right. If you hunt or raise animals for meat, you can convert the hides into beautiful leather. Once you do, you can use the special section in the back of this book to get started making mittens, fur hats, leather vests, holsters, belts, knife sheaths and more.



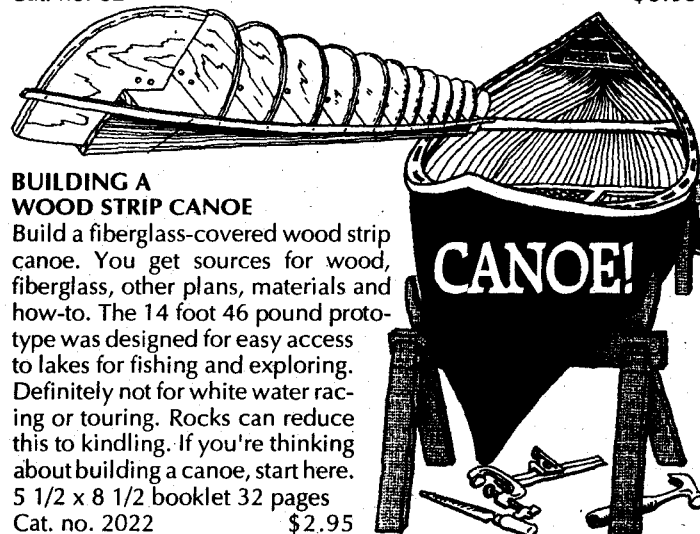
You'll find that tanning leather is very inexpensive, but is labor intensive — a lot of work. But that's part of the fun. How many people do you know tan their own leather?

The authors will tell you what tools and chemicals you'll need, how to select the hide, the steps for tanning leather and fur, how to test for tanning, old-time Indian tanning methods, how to make your own dyes, what qualities of leather to look for, which tools you need for leatherworking, basic leatherworking techniques, where to find tools and supplies and more.

This is a classic book first published in 1977 and is now in its 17th printing! Excellent book. Also useful for keeping your mother-in-law in line. Next time she hassles you, threaten to tan her hide. Show her this book,

and she'll know you mean it! Get a copy! 5 1/2 x 8 1/2 paperback 135 pages  
Cat. no. 62

\$8.95



## BUILDING A WOOD STRIP CANOE

Build a fiberglass-covered wood strip canoe. You get sources for wood, fiberglass, other plans, materials and how-to. The 14 foot 46 pound prototype was designed for easy access to lakes for fishing and exploring. Definitely not for white water racing or touring. Rocks can reduce this to kindling. If you're thinking about building a canoe, start here.

5 1/2 x 8 1/2 booklet 32 pages  
Cat. no. 2022

\$2.95

## PRESERVE YOUR MEAT!

**THE CANNING, FREEZING, CURING & SMOKING  
OF MEAT, FISH & GAME**

by Wilbur F. Eastman Jr

Here's a great reference book that will allow you to preserve meat for the future. You get a mixture of plans, tips, how-to instructions, and recipes for preserving all types of meat with all types of processes.

Chapters include Basic Information, Canning, Freezing, Curing, How to Build a Smokehouse, Beef and Veal, Pork, Lamb, Poultry, Game, Fish, and Recipes.

You'll learn to process meat inexpensively and safely. If you hunt, fish, or raise livestock, you can use the techniques of early settlers and explorers who had no refrigerators.

No, I didn't see anything on pickling those pesky alligators that live in New York sewers. Or was it the Chicago sewers? But I did see tips on just about everything else. A classic book first released in 1975 and updated in 1989. Excellent book. Get a copy.

5 1/2 x 8 1/2 paperback 202 pages

Cat. no. 61

\$9.95



## Grow Food in Chemicals??!

**HOME HYDROPONICS AND HOW TO DO IT!**

by Lem Jones

People are SO ignorant! If you tell them that it's possible to grow plants in chemicals, they immediately think of PCB's, heavy metals, even the ozone layer. They're horrified!

They never stop to think that every plant and animal is composed of chemicals.

They're too poorly educated to know that a plant's roots are there to hold the plant upright AND to suck chemicals out of the soil.

I'm sure you know a bonehead like this. Get a copy of this and give it to them. They need educating.

For the rest of us, we can amaze the boneheads by growing tasty giant tomatoes in sand, vermiculite or pebbles in the dead of winter! They won't know how it's done. In fact, look at all the people that travel through the pavilion at Epcot Center in Florida that features hydroponics. They come out believing it's high-tech. Nuts! It's been around for at least

a century!

This is an updated and revised edition of a classic book that has been in print since '77. Chapters cover history, simple systems, equipment, building a greenhouse, growing media, nutrient solutions, plant care, plant diseases, insect problems, and you get a list of reference materials and suppliers.

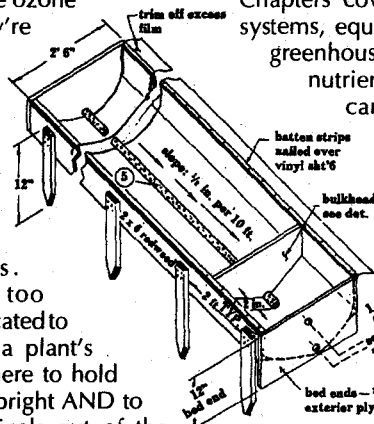
Hydroponics can be as simple as a 10" oval pan on a simple wooden frame filled with pea gravel or wood shavings. Or it can be an intricate greenhouse with pumps and timers and lights. It's whatever you want it to be.

Get a copy of it. If you can develop a giant form of Venus Flytrap that eats mothers-in-law, let me know. I'm in need! Otherwise grow some potatoes or sweet corn. Sunflowers might be difficult. Great first book. Get started!

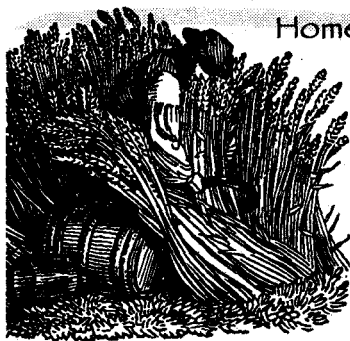
5 1/2 x 8 1/2 paperback 142 pages

Cat. no. 610

\$12.00



Homesteading, Survival, Alternate Energy, and more....



## HOW TO MAKE THEM AND THROW THEM

by Bernard S. Simon

"It only takes minutes to make a good guaranteed-to-return boomerang. By following a few more simple steps you will learn to throw it so it will always return to you..."

# Throw Boomerangs!

Learn how to make all of the standard designs: pin-wheel, boomabirds, airplane shapes, other ornamentals, tumblesticks, and others.

This is a reprint from "Primitive and Pioneer Sports" of 1937. And it's fascinating. Look at the low cost. How can you afford not



to have a copy? 5 1/2 x 8 1/2 paperback 99 pages  
Cat. no. 41 \$3.95

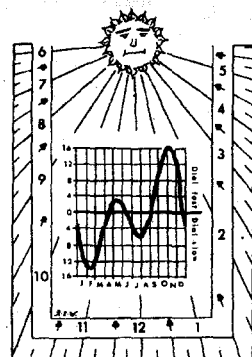
## SUNDIALS

**Their Theory and Construction**  
by Albert E Waugh

"All the common types of dials are covered, but the reader can also learn about analemmatic dials, polar dials, equatorial dials, portable dials, memorial dials, armillary spheres, reflected ceiling dials, cross dials and old-fashioned noon marks. There are also sections on dial furniture, mottoes, the actual laying out of a dial, the equation of time, finding time in other cities, how to find the meridian, how to find time by moonlight even how to estimate time from the length of one's own shadow! Directions are given for designing dials for any part of the country, or any place in the world. The author has designed many dials, and his text is filled with helpful hints based on his own personal experience."

Nineteen chapters. Over 100 illustrations, charts and tables. If you haven't built a dial, give it a try. Great project for kids. Inexpensive. Interesting. Get a copy. 5 1/2 x 8 1/2 paperback 230 pages  
Cat. no. 45 \$5.95

# Build a Sundial!



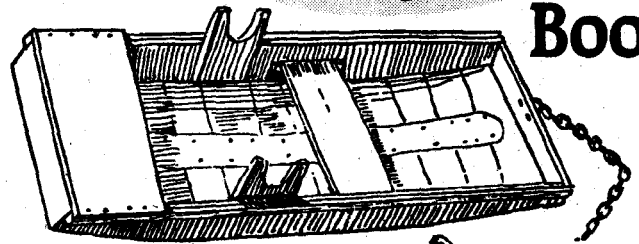
## BAKING WITH SOURDOUGH

Learn how to make a sourdough starter and use it to make a variety of delicious breads and biscuits like the gold rush prospectors did. This "Back-to-the-Land" bulletin published by Garden Way provides you with hints, tips, and recipes. 5 1/2 x 8 1/2 booklet 32 pages  
Cat. no. 2006 \$2.95

# BAKE SOURDOUGH!



# American Boys Handy Book



by D. C. Beard

"If Huckleberry Finn were to settle down, somewhere out there in the territory, and decide to become an author, he might very well come up with a book like this one..." — Washington Post Book World

"The Handy Book was the perfect survival manual. It contained plans for 16 kinds of kites and hot-air balloons and fishing tackle. It told you how make and stock an aquarium, to construct a water telescope and how to camp out without a tent. Or in a hut made from pine boughs. How to build 10 kinds of boats, including a flatboat with a covered cabin. Ice boats, too. One-person canoes. Bird calls. Squirt guns with astonishing range and authority..." — Henry Kisor, Chicago Sun-Times



## 1882 Classic!

As a kid I read an original copy in our small town library. This is a classic book. Get a copy! 5 1/2 x 7 1/2 paperback 441 pages  
Cat. no. 6034 \$10.95

# MAKE A KITE...

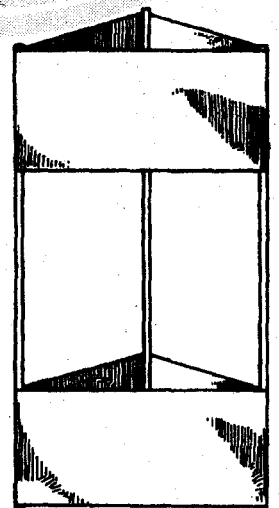
## 25 KITES THAT FLY

by Leslie L. Hunt

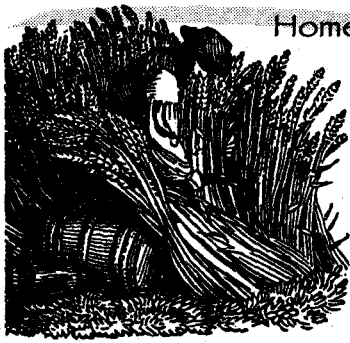
Next time your wife complains that you spend too much time in the shop and not enough time socializing with your in-laws, tell her to go fly a kite. Hand her this book when you do.

Learn about kitemaking in general. Learn how to make tailless kites such as a butterfly kit, a yacht kite, or a bow kite. Or try making a plane-surface kite such as an English kite, five-point kite, or an elephant kite. And you can make compound kites such as a square box kite, a military kite, or a cross kite. You also get chapters on flying hints, accessories you can build, and miscellaneous useful information.

A great reprint from 1929. Low cost! So affordable, in fact, you can give a copy to each of your in-laws, and tell 'em all to go fly kites! ...while you slip off to the shop. Get a copy. 5 1/2 x 8 1/2 paperback 110 pages  
Cat. no. 467 \$2.95







Homesteading, Survival, Alternate Energy, and more....

## BUILD A HOUSE!

**BASIC CONSTRUCTION TECHNIQUES for Houses and Small Buildings Simple Explained**  
by Bureau of Naval Personnel

Learn carpentry! Maybe you could build a regulation Marine barracks in your backyard!

"Many homeowners have at one time or other considered building their own home or adding an extension to their present house. One of the best backgrounds for such home construction is offered by the manual which the U.S. Navy has prepared for use in its own classes.

Detailed chapters cover such basics of construction as: concrete - selecting the mixture, using forms and joints, reinforcing, placing, finishing, and curing concrete, and using concrete for foundations, floors, beams, columns, and walls; masonry - selecting bricks, mortar

and patterns, laying concrete blocks, structural clay tile, stone, and brick, insuring watertightness and proper bonding, and using brick for door and window sills and lintels; woodworking - using and selecting tools and materials; rough carpentry - building framings for foundations, floors, walls, and roof; exterior

finishing - finishing cornices and roof, installing asbestos-cement siding, insulation and outside wall covering; interior finishing - completing ceiling, walls, stairs, window sashes, casings, and doors, adding baseboards and trim, and plastering, stuccoing, and setting tile; and painting - selecting the paint, preparing surfaces and using techniques for the most efficient and most permanent job.

Other chapters cover related subjects and techniques...."

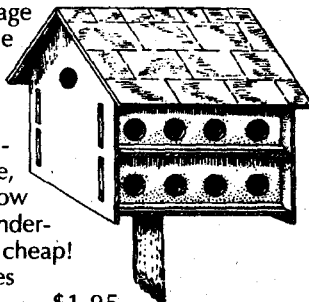
Lots of useful instruction at a reasonable price. Yes, you even get plans for regulation latrines. Your mother-in-law will love that! Get a copy. 6 1/2 x 9 1/4 paperback 568 pages over 675 illustrations  
Cat. no. 589 \$12.95

**COMPLETE BOOK OF BIRDHOUSE CONSTRUCTION**  
by Scott Campbell

Build a birdhouse! It's easy. Learn about designing the roof, cleanouts, drainage and ventilation, entrance holes, the interior, the requirements of the birds, how to support a birdhouse, about inspection, pest guards, and more.

When your children or grandchildren ask you how to build a birdhouse, you don't have to admit you don't know how. Whip out this booklet and get under-way. Or give it to them as gift. Dirt cheap! Good! 5 1/2 x 8 1/2 booklet 48 pages  
Cat. no. 6010 \$1.95

## House Your Bird



## CIRCULAR SAWMILL BLADES

**CIRCULAR SAWMILL BLADES**  
reprinted by Lindsay Publications

These pages, reprinted from two different 1880's books, will show you how to make, set and true up circular saw blades. You'll get a brief lesson on setting saw teeth and on hammering a bent circular saw blade back into truth — only a few pages long but the best explanation I've been able to find yet.

Pages from the second book "Leffel's Construction of Mill Dams and Bookwalter's Millwright and Mechanic" from 1881 will reveal how two different sawyers of 30 years experience take a sheet of steel and layout a 50" circular sawblade from scratch. This method pro-

duced blades able to saw, before resharping, as much as 4500 feet of bark-covered hardwood taken from the Missouri river still embedded with sand and grit.

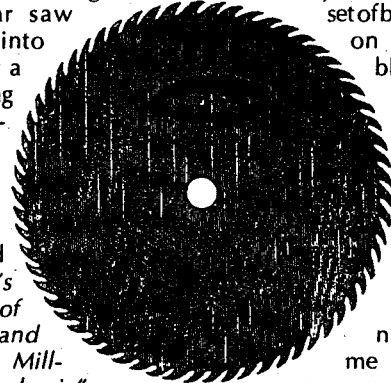
And you also get another set of brief instructions on hammering a blade back into truth.

Rare information! Anyone even thinking of building or running a sawmill MUST have this. The original books cost me a fortune, but

your cost is practically nothing when you consider the rarity of the information. Order a copy! 5 1/2 x 8 1/2 booklet 22 pages

Cat. No. 896

\$3.50



## HOMESTEAD!

Tell the Boss to Shove It!



**FIVE ACRES AND INDEPENDENCE**

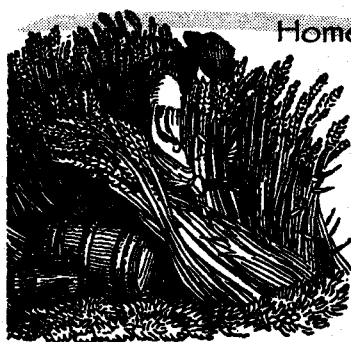
by M. G. Kain

Tell the boss to hang it, and move to the open country and homestead! It's possible. This reprint of the 1935 original will show you as it did thousands during the Depression how to survive comfortably on five acres. You'll learn about greenhouses, coldframes, soil, manure, fertilizers, compost, tools, weeds, orchards, pruning, grafting, seeds, transplanting, berries, things to sell every day, grapes, storage, and much more. There's so much info here at such a low price, you can't afford not to have a copy. 397 pages 5 1/2 x 8 1/2 paperback

Cat. no. 608

\$6.95

LINDSAY PUBLICATIONS INC, PO Box 538, Bradley IL 60915 • 815/935-5353



## Make Beautiful Ceramic Tile!

### HANDMADE TILES

by Frank Giorgini

The walls of Babylon were decorated with beautifully glazed bricks and tile decoration. Many glamorous homes have floors and walls decorated with handmade ceramic tile. It is truly a high art form, and it's a very interesting technical process.

*"Written for the beginning tile maker, the accomplished artist, and the tile lover alike, this comprehensive, easy-to-understand, and loving treatment of the art of handmade tiles provides a wealth of practical information, a touch of history, and a stunning array of color photography. Included are more than eighty 'how-to' photographs of tile-making steps, techniques and tools, as well as dozens of color photos of work by some of today's best tile artists.*

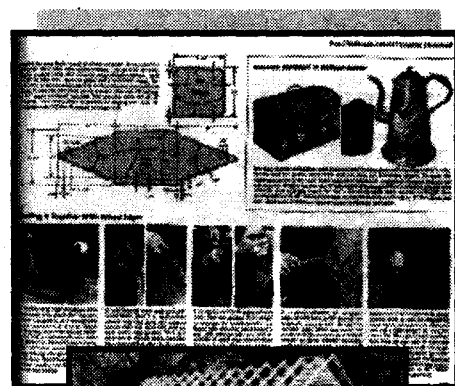
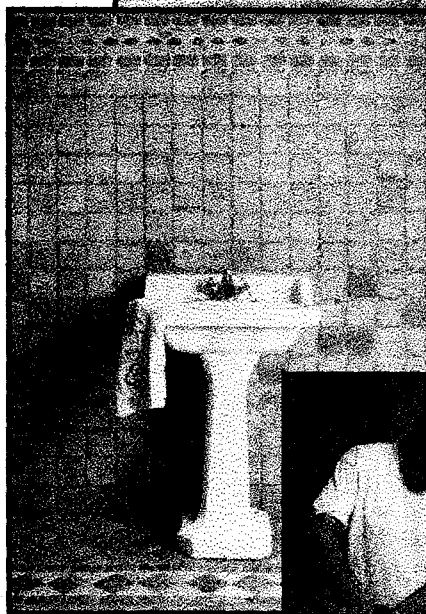
*The author gently guides the reader through setting up a workshop, selecting materials, purchasing and making tools and equipment, and designing, fabricating, firing, decorating, and installing tiles. Everything that the beginner needs to know is considered—making relief tiles, underglaze and glaze decoration, slip trailing, inlay, sgraffiato, shellac resist, and impressing, as well as mosaics and the tile installation process..."*

This fascinating full-color book reveals a true art form, one of incredible beauty. But the entrepreneur in me keeps telling me that this is a money-maker. With today's interest in home and home-improvement I can't help but think that with just a little artistic talent (or an ability to steal ideas) and some connections with a contractor or interior decorator you could mass-produce clay tiles, make good money, and have fun doing it. In other words, this is not only looks like fun, it looks lucrative, too.

Expensive book, but color printing is not cheap. Excellent value. Unusual content. If this strikes your fancy, get it now while you can. Excellent. 9x12 hardcover 144 pages

Cat. no. 6071

\$24.95



## HOMESTEADING SKILLS!

### BACK TO BASICS

How to Learn and Enjoy  
Traditional American Skills

by Reader's Digest

You get a big, beautifully illustrated hardcover book that will show you how to do almost everything a homesteader needs to know.

Topics include: buying country property, planning your home, preparing the site, converting trees into lumber, building a log cabin, building with adobe, building a stone house, raising a barn, developing a water supply, fences, heating with wood, water-power, wind power, solar energy, the kitchen garden, fruits and nuts, grains and grasses, beekeeping, fish farming, livestock, preserving produce, making dairy products, maple sugaring, homemade beverages, baking bread, cooking with wood, spinning and weaving, hooked rags, braided rugs, rope and twine, tanning and leatherwork, wood-working, broom making, scrimshaw, metalworking, stenciling, soapmaking, candlemaking, basketry, making a mountain dulcimer, and much more.

You'll be impressed by easy-to-read text and quality illustrations throughout. Obviously each chapter could be a book in itself, so information is limited. But it's enough to get you started. At the end of each section you'll find a list of quality reference books that will help you push on.

Lots of things to try. Just plain fun to read even if you never try a thing! A bit expensive, but it delivers. If you're thinking about being more independent, this is a must-have book. Recommended. 11 x 8 1/2 hardcover 456 pages

Cat. no. 2027

\$26.00



# CHEMISTRY

Secret Formulas, Processes,  
& Techniques

# The Scientific American CYCLOPEDIA OF FORMULAS

## New! Volumes One and Two!

### VOLUME 1 - ACCIDENTS AND EMERGENCIES, AGRICULTURE, ALLOYS & AMALGAMS

You get nineteen pages on dealing with accidents, poisonings, drownings, and all the "routine" problems of life. I'm not sure I would want to trust their recommendations.

The agriculture section looks quite useful, especially if you're looking to homestead. Make grafting wax, growing mushrooms in an old chest of drawers, make butter and its substitutes, a couple of simple cheeses, and fertilizers for the garden. You get details on milk and its substitutes, preservation and the like. Learn about chickens, their feed, and even remedies for diseases. You get lots of formulas for keeping your livestock healthy including cattle, horses, dogs, and hogs.

### VOLUME 2 - ART & ARTIST'S MATERIALS, BEVERAGES

You get hints, tips and formulas for all kinds of things like ways of bronzing, preparing canvas for painting, mixing pigments, making copying paper, drafting, fixing drawings, making wax flowers, bronze drawing on glass, gilding on granite, backing maps with muslin, making modeling clays and compounds, making molds for metal casting, papier mache (including industrial uses), making real parchment papers, picture framing, plaster casting, and much more.

Once you've tried all that, you'll need a drink. How about homemade carbonated water? You get all kinds of formulas and recipes for various mineral waters, and page after page of flavorings, extracts, and syrups for making soda pop. Make dandelion root

Finally you get a section on eradicating weeds.

Alloys & Amalgams will, first, provide you with general information about alloys and the metals that go into them. Then you get details on a wide variety of alloys including aluminum bronze, bismuth bronze, copper alloys, German silver, bronze, gun metal, phosphor bronze, speculum metal, bearing metals, brass, gold, gold imitations, manganese, platinum, and silver metals, white metal and more. Amalgams include those using barium, bismuth, cadmium, copper, gold, silver and lots more. Interesting stuff. Some alloys are probably too difficult for us to compound, but others like type metal and bearing metal are quite possible.

More great info. 5 1/2 x 8  
1/2 paperback 128 pages  
Cat. no. 21516 \$7.95

beer, hop beer, egg drinks, Frappes, ginger ales, and more. Then you get details on grape juice, ice cream beverages, malted milk, phosphates, and punches. Hot beverages include a beef drink, chicken cream(?), clams(?), coffee extract and more. Try lemonade, cola, tomato juice, cider and much more. Alcoholic beverages include formulas for all types of liqueurs from honest-to-goodness, illegal absinthe to Berlin bitters and wild cherry. You get page after page on making brandy and other liqueurs and the mixing of drinks. And then you get page after page of wine know how.

More formulas and recipes than you'll ever have time to try. Get a copy. 5 1/2 x 8 1/2 paperback 144 pages  
Cat. no. 21524 \$7.95

### VOLUME 3 - CEMENTS, GLUES, PASTE, CLEANSING, BLEACHING

You can make adhesives for aquariums, barrels, buildings, dental work, glass, for attaching metal to glass or leather, and more. You can make acid proof glues, casein glues, mucilage, putty and much more. You can whip up brewer's cement for coating the inside of barrels, or concoct a glue for setting bristles in paint brushes, or even whip up blood cement for pointing

bricks (yes, it contains bullock's blood!). We use high-tech glue and cement today, but here you'll find very unusual old-time sealants and adhesives that worked very well.

Then you get methods of removing acid stains from clothes, of bleaching beeswax, of cleaning brass and copper, of cleaning clocks, carriages, and casks. You can clean feathers, your bird (??), felt hats, firearms, goatskin rugs, iron, steel, and more. You get formulas



## NINE VOLUME SERIES! A total of 15,000 Formulas!

In 1912 Munn & Co. published an enormous book of formulas for almost every imaginable concoction a person might need. Editor Albert A. Hopkins, query editor of the *Scientific American*, compiled this incredible collection 15,000 formulas drawing on, in part, the 28th edition of *Scientific American Cyclopedia of Receipts, Notes and Queries*. The original copyrights run from 1891 through 1910, and the material they cover is brilliant.

I've debated for quite some time about reprinting this book. To reprint almost 1100 pages in a single volume would be astronomically expensive and would require a hefty price tag. I don't think you want to put a second mortgage on your house to buy a single book.

The solution is to break the main book into nine pieces and reprint the series over time. You can collect all the volumes piece-meal, or buy just the volumes you're interested in. Breaking it into pieces makes it easier for everyone to get access to this information.

You'll find listed on these pages the volumes that have been printed thus far. Those not listed will appear in future editions of this catalog.

Check these volumes out, and order those you need. It's a great series. One worth having.





# CHEMISTRY

Secret Formulas, Processes,  
& Techniques

for preserving ropes, details on rouge for polishing, for polishing nickel, and even for cleaning wicker baskets and violins ('course, cleaning it ain't gonna make it sound any better...)

Unusual stuff to say the least. 5 1/2 x 8 1/2 paperback 161 pages  
Cat. no. 21478 \$8.95

## VOLUME 4 - Plating & Coloring Metal

You'll learn about coloring metals like aluminum, copper, brass, iron and steel and more. You can bronze or frost brass, blue steel or turn it bright black, gild silver or turn it red.

In the section on dyeing you can make Easter egg dyes, dye feathers, hats, gloves, gutta percha, horsehair, straw and more with dozens of formulas.

Learn to electroplate. You get the details on cleaning, pickling, polishing and actual plating. You get many formulas for plating aluminum onto copper, putting down brass and bronze on base metals, plating copper and gold, depositing iron, nickel, platinum, palladium, and so on.

Learn to blow glass, cut, drill, etch, frost, gild, and grind glass. Excellent info on making mirrors. More.

Good stuff. 5 1/2 x 8 1/2 paperback 76 pages  
Cat. no. 21338 \$5.95

## VOLUME 5 - Metal, Candy, Lapidary, Lubricants, Ice cream, more!

You start out with heat treatment of metals, annealing, brazing, casehardening, hardening, tempering and welding. There are recipes and formulas for hardening iron with the prussiate of potash process, hardening copper, directions for making drills for glass from steel wire, tempering and much, much more.

You can make antiseptic wash for washing your bird, formulate bird seed, water-proof cellars, compound fumigants, color electric light bulbs, clean and refinish wooden floors, hang wallpaper and much more.

You get formulas for making a variety of chicle-based chewing gums, candies such as gum drops, rose almonds, Italian cream caramels, and more. You get recipes for several ice cream bases and a number of flavoring additives including unusual ones such as

black currant, huckleberry, and pomegranate. You'll learn to make fruit ice, sherbets, and frozen fruits.

Then you can make poisons! You can with a chapter on insecticides and extermination of vermin: domestic, agricultural, and horticultural.

A chapter in lapidary arts will reveal "artificing in hard minerals, ivory, bone, horn, shell, coral, jet, meerscham, soft minerals, etc." In other words, you can make jewelry and other pretty things.

Next, you'll learn how to tan leather, preserve it, and polish it by using a variety of useful formulas.

Finally, you'll learn to formulate lubricants. You can grease up your buggy wheels, make sewing machine oil, make palm oil grease for wooden machinery, or use paraffine to make piston-rod grease. And lots more.

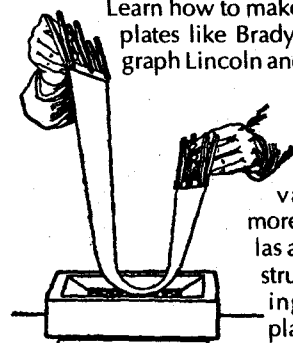
More useful formulas. 5 1/2 x 8 1/2 paperback 113 pages  
Cat. no. 21435 \$7.95

## VOLUME 6 - PAINTS, VARNISH, PHOTOGRAPHY

These formulas cover the areas of bronzing, driers, enamel paints, fillers, japans and japanning, lacquers and lacquering, paints, size, stains, varnishes, and whitewash. I don't know how valuable the bronzing recipes might be, but the japanning info is quite interesting. Perhaps you want to be daring and make your own lacquer to paint your antique car. You can make blackboard paint, boiler paint, engine paint, iron paint, rubber paint, silicate paint and more. You can make size, stains, balloon paint, coffin varnish, violin varnish and more.

Learn how to make collodion wet-plates like Brady used to photograph Lincoln and Civil War. You get formulas for developers, hardeners, fixers, intensifiers, varnishes and more. You get formulas and very brief instructions for making prints using plain salted paper, arrowroot papers, albumen paper, and

for making prints on cloth, wood, ivory, etc. You get formulas for making your own gelatin emulsions. You'll find info on cyanotype processes, platinum, carbon, Ozobrome, and many unusual processes including lead printing, oxalate silver printing papers, citrate paper, uranium process, and more. One section covers lantern slides, color photography, photoengraving, and even



Coating the Paper

old-time flashlight powder (I don't want to be around when you set that off!).

Rare information. Some of it I've seen nowhere else. Grab it! 5 1/2 x 8 1/2 paperback 112 pages  
Cat. no. 21486 \$7.95

## VOLUME 7 - PRESERVING, RUBBER, SOAP, CANDLES, SOLDERING, MORE

Can and preserve fruit. Apparatus needed. Recipes for blueberries, cherries, crab apples, currants, grapes and more. Make jam and jelly of all types. Make brandied fruits, pickles, catsups. (Anchovy catsup, chutney mango, pickled cherries, and more!) Pickle melons, bottle horseradish, can vegetables for the off season. Preserve eggs, meat, smoke eels and salmon. Make many kinds of mustard, prepares spices and seasonings, sauces, salad dressings and puddings. Make and clarify vinegar — many

formulas. Make baking powder, malted food for infants, yeast, more.

Get the details on rubber, gutta percha and celluloid. Make billiard balls(??), imitation tortoiseshell, artificial rubber, rubber preservatives, vulcanizing and much more.

Formulas for candles. Make one of dozens of different soaps from castile to medicinal and beyond.

Get alloy formulas for all types of solders. Hints and tips.

5 1/2 x 8 1/2 paperback 101 pages  
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## VOLUME 9 LABORATORY DETAILS

You get explanations, and in some cases illustrations, of laboratory operations which are broken into six categories: comminution, solution and extraction, vaporization, precipitation and separation, heat treatment of solids, and specific gravity. These are brief explanations of manipulations needed to compound the thousands of formulas in the preceding eight volumes.

You'll learn about maceration, expression, infusion, evaporating dishes, drying closets, distillation, precipitation, filtration, and much, much more. Unlike the rest of the Cyclopedia, this section is well illustrated and that makes it even more fun to read.

You also get a section on essential weights, measures and equivalents as well as the master index to all of the volumes. Excellent, practical lab know-how. Interesting reading. Something to have. 5 1/2 x 8 1/2 paperback 100 pages

Cat. no. 21249 \$7.50



# CHEMISTRY

Secret Formulas, Processes,  
& Techniques

## CHEMICAL CROSS REFERENCE!

*Translate Obsolete Old-Fashioned Chemical Names*

### LINDSAY'S CHEMICAL CROSS REFERENCE

by Lindsay Publications Inc

If you haven't run into the problem yet, you will. You'll be reading some old chemical formula calling for mirbane oil, salt of satum, or liver of sulphur. A quick check of this handy list of chemical terms would tell you that you need nitrobenzene, lead acetate, or potassium sulphide.

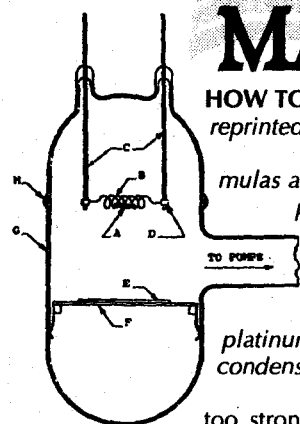
What we did was enter into our computer two thousand chemical equivalents gleaned from a variety of chemistry textbooks, industrial references, and formularies in our reference library dating back to the early

1800's. The computer merged and sorted the lists into alphabetical order. The result is a chemical cross reference.

We have kept unusual and probably incorrect spellings. We have made no attempt to verify that the definitions are correct. What we have done is provide you with one master list of the best equivalents we could find. We've already found it useful, and you will too. Get a copy for your reference library. 5 1/2 x 8 1/2 paper-back 44 pages

Cat. no. 20170

\$5.95



## MAKE MIRRORS

### HOW TO MAKE MIRRORS

reprinted by Lindsay Publications

"The Brashear, rochelle salt, and formaldehyde formulas are given, together with a detailed discussion of the precautions which should be taken to avoid danger and the technique which has been found to yield the most satisfactory results at the bureau. Methods are also given for the production of reflecting films on glass by the chemical deposition of copper, platinum, or lead sulphide, by cathode sputtering, and by the condensation of vaporized metals."

Be warned that should you mix some of the chemical too strong, there may be a dangerous explosion. But the manual goes into great detail about eliminating the dangers, and the practice of silvering. It is written for the beginner and leaves very little to the imagination. A reprint of a 1931 booklet issued by the Bureau of Standards. Excellent! 5 1/2 x 8 1/2 booklet. 15 pages 2 drawings.

Cat. No. 885

\$3.00

### CRYSTALS AND CRYSTAL GROWING by Holden & Morrison

Crystals exist in everything from your TV set to the castings you pour. Learn about what crystals are and how they grow. Learn how to grow your own, easily and inexpensively.

Chapters include: solids and crystals, solutions, solubility diagrams, two methods for growing crystals, building blocks for crystals, twelve recipes, symmetry, arrangements of atoms, cleaving and gliding crystals, melting and

transforming, piezoelectric effect, optical experiments and more. You also get sources of supplies, making a spectroscopy, suggestions for research, more books and articles.

Excellent book. Easy to read and understand. It was first published in 1960, so you know it's a good book. Get a copy. A great science fair project. 5x8 paperback 318 pages

Cat. no. 546

\$12.95

## GROW CRYSTALS!

# CONTENTS

- **Division I** — Chemical Metallurgy; Alloys; and Preparations Made and Obtained from Metals. Iron; Pig or crude iron; Malleable, bar or wrought-iron; Steel; Iron Preparations; Cobalt; Nickel; Copper; Preparations of Copper; Lead; Preparations of Lead; Tin; Preparations of Tin; Bismuth; Zinc; Preparations of Zinc; Cadmium; Antimony; Antimonial Preparations; Arsenic; Quicksilver or Mercury; Preparations of Mercury; Platinum; Silver; Gold; Manganese and its preparations; Permanganate of Potassa; Aluminum; Magnesium; Electro-Metallurgy

- **Division II** — Crude materials and products of chemical industry — Carbonate of Potassa; Saltpepper, Nitrate of Potassa; Nitric acid; Technology of the Explosive Compounds — gunpowder, and the chemistry of fireworks or pyrotechny; Nitroglycerine; Gun-cotton; Common salt; Manufacture of Soda — native soda; Soda from plants or soda-ash; Soda Prepared by Chemical Processes; Preparation of Iodine and Bromine; Sulphur; Sulphurous and Hyposulphurous Acid; Manufacture of Sulphuric Acid; Sulphide of Carbon; Hydrochloric Acid and Glauber's Salt, or Sulphate of Soda; Bleaching Powder and hypochlorites; alkalimetry; Ammonia and ammoniacal salts; Soap making; Boric or boracic acid, and borax; Production of alum, sulphates of alumina, and aluminates; Ultramarine

- **Division III** — Technology of Glass, Ceramic Ware, Gypsum, Lime & Mortar Glass manufacture; Ceramic or earthenware manufacture including hard porcelain, tender porcelain, stoneware, Fayence ware, common pottery, brick and tile making; Lime and lime-burning; Mortar including common or air-setting mortar and hydraulic mortar; gypsum and its preparation

- **Division IV** — Vegetable Fibers and Their Technical Application — Hemp; Cotton; Paper making — hand paper, machine paper, pasteboard and other paper; Starch; Sugar manufacture; Cane Sugar; Beet-root; sugar; Grape sugar; Fermentation; Wine-making; Beer-brewing; preparation or distillation of spirits — preparation of vinous mash and distillation of the vinous mash; Bread baking; Manufacture of vinegar; Preservation of wood; Tobacco; Technology of essential oils and resins; Cements, lutes and putty

- **Division V** — Animal Substances and Their Industrial Application — Woollen industry; Silk; Tanning; Glue Boiling; Manufacture of Phosphorus; Requisites for producing fire; Animal charcoal; Milk; Meat

- **Division VI** — Dyeing and Calico Printing — Aniline colours; Carboic Acid colours; Naphthaline pigments; Anthracene pigments; Pigments from Chinchonine; Red Pigments occurring in plants and animals; Blue dye materials; Yellow dyes; Bleaching; Dyeing of spun yarn and woven textile fabrics; Printing of woven fabrics

- **Division VII** — Materials and Apparatus for Producing Artificial Light — Artificial light from candles; Illumination by means of lamps; Gas; Paraffin and solar or petroleum oils; petroleum

- **Division VIII** — Fuel and Heating Apparatus — Fuel; Wood; Peat; Carbonized peat; Brown-coal; Pit coal or coal; Petroleum as fuel; coke; artificial fuel; gaseous fuel; heating apparatus; heating dwelling houses; boiler heating and consumption of smoke

# CHEMICAL MANUFACTURING SECRETS

## 1872 HANDBOOK! Everything from pig iron and nitric acid to bread and wine!

### HANDBOOK OF CHEMICAL TECHNOLOGY 1872

by Rudolf Wagner

translated by William Crookes

reprinted by Lindsay Publications

In the 1872 German chemists were world famous, and Wagner's Handbook was the master reference for chemists the world over. This translation of the eighth German edition can be yours for much less than an original copy should you be able to find one.

And what a book it is!

You'll early and/or simple ways of making chemicals, refining metal, formulating glue, paper, dyes or just about anything else chemical in nature. I have never seen such a comprehensive collection of incredible technological detail in a single volume anywhere else.

Want to refine iron ore into steel? Want to make sulphuric acid? And use it to make nitric acid? And use it to make explosives? Care to brew beer? How about a batch of whiskey? A loaf of bread? And on, and on, and on. You get a whole encyclopedia in a single volume — 745 pages of small type with 336 illustrations mostly of manufacturing apparatus.

This is not really a cookbook. You won't find step-by-step instructions. But you will find more detail on a wider variety of basic essential processes (many of them made obsolete by more complicated processes) than in any other volume. For instance, if you're investigating the tanning of hides, making illuminating gas, charcoal, soap, or anything else, you'll find that this single volume can provide more information in less time than a search through most libraries for a month of Sundays.

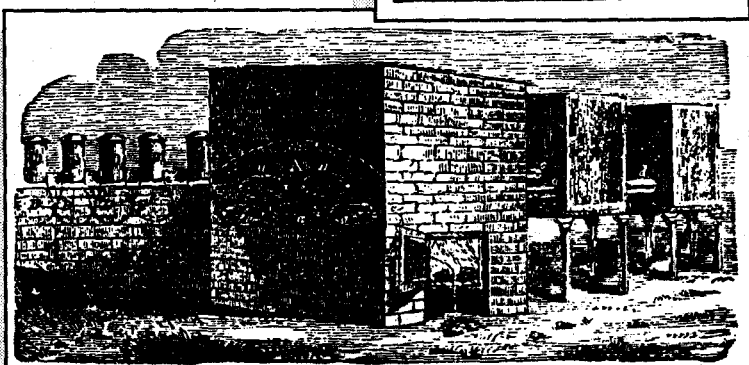
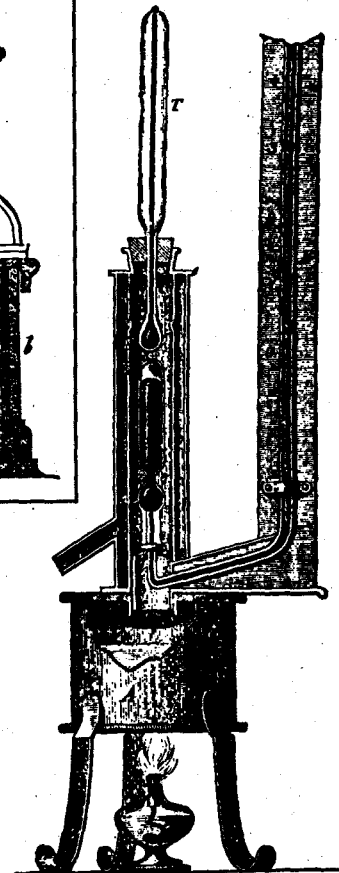
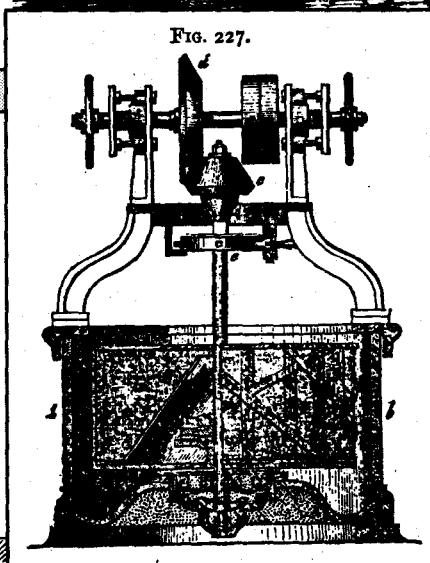
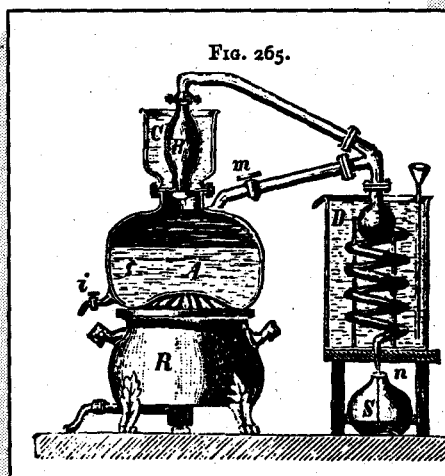
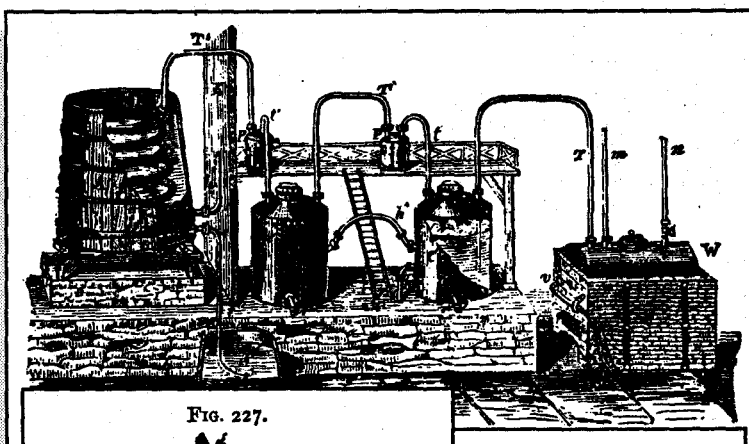
Yes, this is an expensive volume, but you actually get more than what you pay for. This is quality. Today we have sophisticated, hi-tech processes that are closely guarded industrial secrets. Here you learn how it was done before large corporations and PhD chemists took over production. Be warned, though. This is old world thinking. You run the risk of poisoning yourself. These methods can be and probably are dangerous.

This incredible classic text will definitely fill a void in your reference library. I've never seen anything like it. And it's almost a sure thing you haven't either. It's expensive, but it's worth every penny and then some. Order a copy. You won't be disappointed. 5 1/2 x 8 1/2 hardcover 745 pages

332 illustrations

Cat. no. 4996

\$29.95





# CHEMISTRY

Secret Formulas, Processes, & Techniques

## MANUFACTURE OF WHISKEY, BRANDY & CORDIALS

by Irving Hirsch  
reprinted by Lindsay Publications Inc

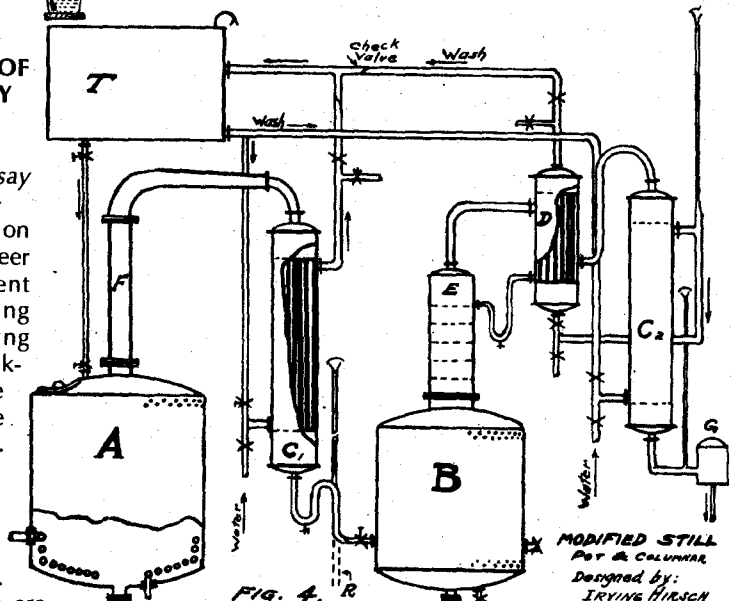
You'll find books on making wine and beer in lots of different places. But finding books on making booze, good, drinkable booze (if there is such a thing...) are almost non-existent. I suspect it has to do with taxes. Making booze is illegal without a government permit. What you get here are the secrets of making booze that you're not supposed to know!

In 1937 the author, a chemical engineer, put together this industrial handbook to teach others how to produce hard stuff. Prohibition had ended, but the Great Depression hadn't. I guess there wasn't much to do but drink...

Chapters include whiskey, treatment of grain, rye whiskey, distillation of liquors, distillery equipment and appliances, manufacture of brandy, of apple-jack, of pear brandy, of slivowitz, of fruit brandy, of rum, of gin, of miscellaneous liquors, of cordials, blending, maturing of spirits [very important], artificial maturing of spirits [trade secrets?], clarifying liquors, water, sugar and syrup, coloring and much more.

We're not talking about small moonshine stills. And dis ain't "white lightnin'" that tastes like liquid fire. This is good stuff. We're dealing with big stills and big processes the way the pro's did it and are probably still doing it. You get diagrams of many different types of stills, condensers, filters and so on. You get recipes for everything from gin to creme de cocoa. You get useful tips on blending scotch whiskeys, problems that occur if whiskey stays in bond too long, problems with sweating casks and much more.

I'll never make my own booze. I'm too lazy, I guess. Nevertheless I found this book



## Manufacture of Whiskey, Brandy & Cordials

interesting

because this kind of information that is never published. It's passed on through apprenticeships. The text is typewritten, and the illustrations are industrial. I get the overpowering feeling that this is information that the government and especially the distilling industry wants to keep to itself.

Excellent, rare information. An interesting book on something that people have enjoyed and gotten into trouble with since the beginning of time.

Get a copy and enjoy it. But don't get into trouble. Order a copy today! 5 1/2 x 8 1/2 paperback 183 pages Cat. no. 20935

\$9.95

**SECRETS OF MAKING BOOZE**  
you're not supposed to know!

Vodka • Gin  
Brandy • Rum  
Scotch • Bourbon  
and more!

## PRACTICAL DISTILLER

by Leonard Monzert

reprinted by Lindsay Publications

Make moonshine! Poison yourself! Go blind!

From 1889 comes this little gem of a book showing how to distill "Brandy, Gin, Rum, Whiskey, Arrac, Poteen, etc., all of which owe their respective intoxicating properties to the amount of alcohol which they contain."

While other books show you how to make fuel alcohol, this one will show you the

## PRACTICAL DISTILLER

equipment you need to make booze. Included are discussions on the still and appurtenances, the farmer's still, directions for erecting a distillery, running a charge, the doubler, distillation of liquors, rectifying or leaching, alcohol refining, distillation of volatile oils, extracts, the water bath still, essences and liqueurs, blending and compounding and more.

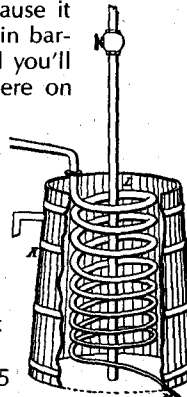
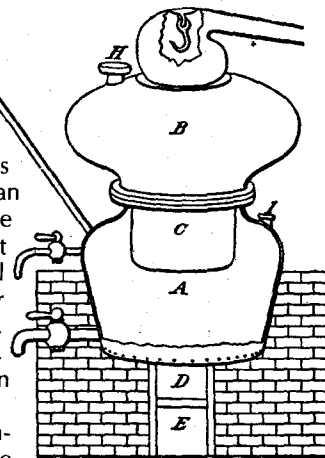
Making booze without a permit is

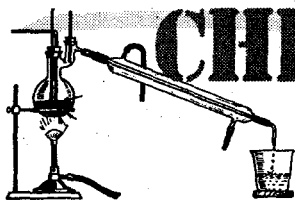
illegal. The government wants its taxes. You can use the equipment to make fuel alcohol for your car, perfume, and even vinegar.

If you intend to make booze, you're on your own. Moonshine stills were made with galvanized iron, old radiators, and other nasty metal that could poison you. Besides, "white lightning" tastes like lightning because it isn't aged or mellowed in barrels. It's nasty stuff. And you'll find little information here on turning out really good whiskey. This is a book on equipment, not gourmet cooking.

A great curiosity. Rare information. I won't tell the WCTU or BATF you're ordering copy. 5 1/2 x 8 1/2 paperback 156 pages Cat. no. 4589

\$8.95





# CHEMISTRY

Secret Formulas, Processes,  
& Techniques

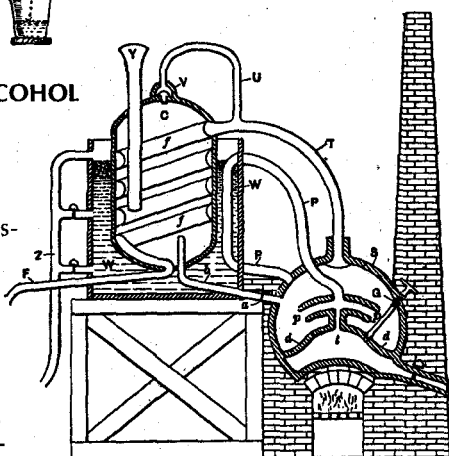
## DISTILLATION OF ALCOHOL AND DE-NATURING

by F. B. Wright

reprinted by

Lindsay Publications

You can make industrial alcohol from anything fermentable. Here is one of the very best books you'll ever find on the nitty-gritty details of fermenting grain, fruit, potatoes, and more into a valuable fuel.

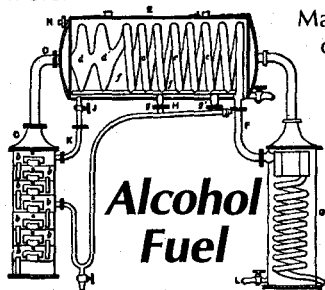


## JUNGLE JUICE!

Chapters include alcohol, its forms and sources; preparation of mashes and fermentation; distilling apparatus; modern distilling apparatus; rectification; malting; alcohol from potatoes; alcohol from grain, corn, wheat, rice, and other cereals; alcohol from beets; alcohol from molasses

and sugar cane; alcoholometry; distilling plants, their general arrangement and equipment; denatured alcohol, and denaturing formulae; denaturing regulations in the United States (now no doubt obsolete).

You get many, many illustrations of stills, and their equipment. You also get drawings of a potato steamer and crusher, a storage cellar for beets, a roll press for beets, a molasses fermenting house and more.



Mashing is a process of natural enzyme chemistry that converts common starch into fermentable sugars. The process is touchy because it must be carried out at precise temperatures. Here, you get recipes and the precise details on mashing.

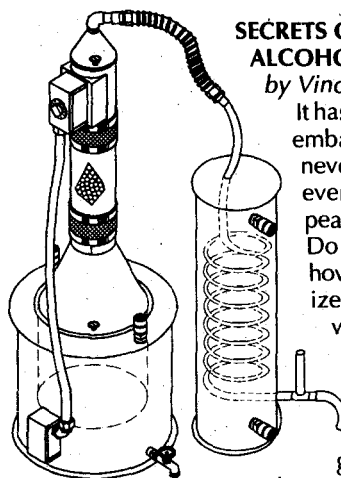
You'll also get formulas for denaturing alcohol, that is, making it undrinkable so that you can sell it and use it legally. Obviously

this is a top rate book for the manufacture of fuel in small, medium, or outrageously big lots.

A lot of this info is pure moonshine know-how. What you don't get however, are details on making drinkable alcohol. Booze tastes good because it has been fermented from special, often secret, recipes, distilled in unique stills in a unique way, and has been aged in wood. The raw output from these methods could be drunk, but probably won't taste very good, and the fusel oils could give you a very nasty hangover. This is fuel, and engines aren't too fussy about the booze they consume. If your goal is to make whiskey, you're on your own. It's against the law.

Great book! Originally copyrighted in 1907. Loaded with detailed how-to. Tremendous reference and source book for survivalists, farmers, Snuffy-Smith-types, chemistry buffs, and the curious. Good stuff. Get a copy. 5 1/2 x 8 1/2 paperback 271 pages  
Cat. no. 21427

\$14.95



## SECRETS OF BUILDING AN ALCOHOL PRODUCING STILL

by Vince Gingery

It has been a long time since the Arab oil embargo created a shortage of gasoline never before seen in this country. And even after the gasoline lines disappeared, the price of gas skyrocketed. Do you remember? Do you remember how people panicked when they realized they had nothing to feed that four wheeled gas hog that got them to work each day?

Do you remember all the red-neck boasts about how "Bah Gawd, I'm gonna bury a 200 gallon tank in the ground and fill it with gas..." as if somehow that would solve

the problem? An intelligent person knows that hoarding is not a solution to shortages. An intelligent person finds alternative solutions, and this machine is just such a solution.

## Make Alcohol!

### Powerful homemade liquid fuel!

Instead of trying to stockpile gasoline, you can make your own substitute out of sugar, corn, potatoes, the ol' lady's underwear (well... maybe not that), or just about anything you can ferment into alcohol. This still will remove the water, creating almost pure alcohol (close to 200 proof) that you can burn in just about any type of engine.

Here Vince will teach you how to take common plumbing parts, copper sheeting, and standard electrical parts and build a 6 gallon capacity still. He'll show you how to malt, mash, and ferment corn into fuel and turn it into fuel. And Vince will show you how easy it is to get a license and do all this with the blessing of authorities.

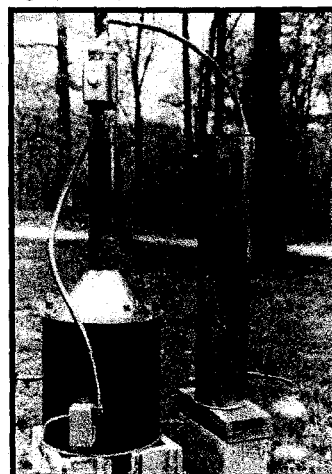
The still heats the wash with a water jacket in which is immersed a 120 volt water heater element. Temperature is controlled with a continuous thermostat. Eventually vapors boil through the rectifying column to the condenser. If you carefully maintain the precise temperature, you'll get almost pure alcohol.

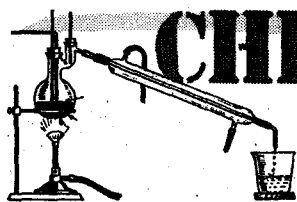
The fuel you produce is not going to be cheaper than gasoline unless you have a low cost source of fermentables and want to make a version you can fire with scrap wood or coal. But remember. If you can't buy gasoline at any price, even alcohol at three or four dollars a gallon is a bargain. And if you use it to power a small motor scooter that gets 200 miles to the gallon, you'll be getting around when everyone else is walking or bicycling. What you'll make here is a device that can turn common table sugar into a substitute for gasoline the supply of which no one can control but you.

I'm sure you could use the still to make whiskey and brandy. But I'll tell you up front, that's against the law whether you sell it or not. The Feds want their taxes. If you're going to make moonshine, don't tell me about it.

Great book on a great machine! Be independent. Thumb your nose at the corner gas station. Build a still, and make fuel. Order a copy. 8 1/2 x 11 paperback 76 pages  
Cat no. 6060

\$11.95



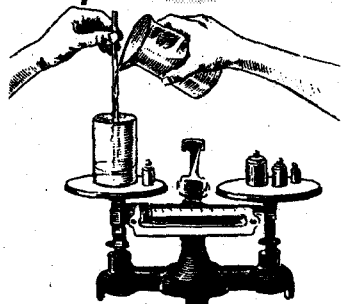


# CHEMISTRY

Secret Formulas, Processes,  
& Techniques

## MANUAL OF FORMULAS

Great Chemical  
Recipes from 1932!



**MANUAL OF FORMULAS, RECIPES, METHODS AND SECRET PROCESSES**  
edited by Raymond Wailes  
reprinted by Lindsay Publications

Here's a great low cost collection of hundreds of formulas on just about every subject you can imagine compiled from the pages of Popular Science Magazine and published in 1932.

You can make soap bubble liquids, solidified gasoline, waterproof matches, lacquer for brass, silver solder, photographic printing paper, slow-drying putty, blackboard paint, thermite welding mixtures, pewter alloy, garden sprays, soaps, preparations for dance floors(?), concrete waterproofing compound, fireworks, cosmetics, adhesives and much more.

You'll learn how to mix up compounds for polishing and plating metal. Learn how to blacken brass, blue steel, to make silver nitrate from old spoons, mix up low temperature alloys, dry flowers, brew wine, re-ink typewriter ribbons, make blueprint paper, dye cloth, make flypaper and much more.

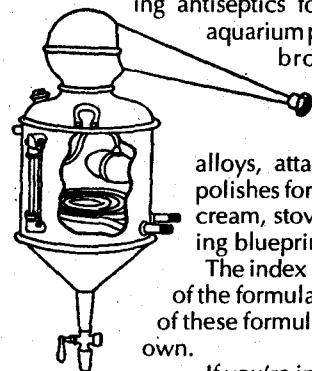
Unlike other formularies, this one is new enough to be useful and old enough to have unusual formulas. And the price is quite reasonable compared with the large volumes which are interesting but often contain many formulas that are of little practical value. An interesting book of definite value. Worth having. Order a copy today. 4 1/2 x 8 paperback 250 pages Cat. no. 20366 \$9.95

## HENLEY'S 10,000 FORMULAS

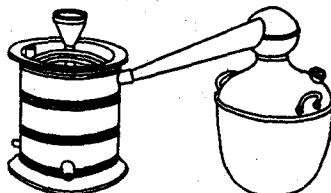
**HENLEY'S FORMULAS FOR HOME AND WORKSHOP**  
edited by Gardner D. Hiscox, ME

This is a reprint of a standard handbook that first appeared in 1907 and was later revised in 1927. You get "10,000 scientific formulas, trade secrets, food and chemical recipes, and money saving ideas."

You get formulas and instructions for making everything from acid-proofing compounds to preservation of yeast. You get a big thick hardcover book (one helluva bargain) covering antiseptics for caged birds, aquarium putty, beer, blue bronze, casket



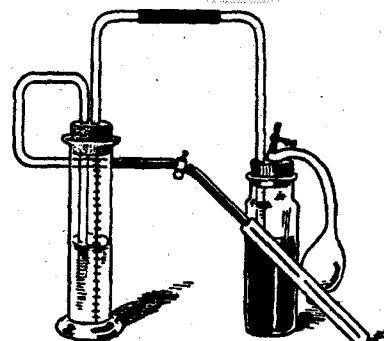
trimmings, clock oil, enamel varnishes, glass etching, marine glue, fireworks, inks for hand stamps, jeweler's alloys, attaching rubber to metal, pickling like gold, polishes for aluminum, removal of a beer, skin cream, stove blacking blueprints and waterproof-



**GONE!**  
NO LONGER  
BEING PRINTED!  
(I TOLD you not to wait to  
order, didn't I?)

The index is set in... of the formulas, no do... of these formulas may be... own.  
If you're into this kind... don't. It's not all that hard to find... away! Standard volume of old formulas. Cat. no. 58282 \$12.95

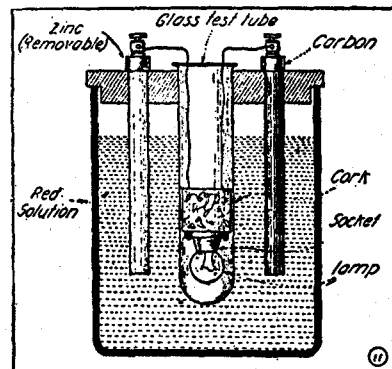
# 1001 FORMULAS



**A THOUSAND AND ONE FORMULAS -**  
**The Laboratory Handbook for the Experimenter**  
by Sidney Gernsback  
reprinted by Lindsay Publications

Back in 1920 people were hot to set up their own laboratories and invent something and become rich. Experimenter Publishing Company published books and magazines to whet their appetite.

Here you get formulas on cements and glues, compositions of all kinds, glass and glass working, inks, leather polishes, metal-craft, perfumes, soaps, photography, blue-print and other papers, plating, pyrotechny, polishes and stains, varnishes and paints, cleaning compounds, wood-craft, chemical lab hints, mechanical lab hints, electrical lab hints, miscellaneous formulas and an appendix.



Not everything here is useful in my opinion, and some of it is downright dangerous. Some of this looks like it came out of the Boy Mechanic books. Learn how to convert coin silver into pure silver, formulas for solders, lithographic ink, how to make a gasoline torch, recipes for killing flies, an experiment with thermit, hand grenades ???, flashlight powder like the old photographers once used, methods to copper-plate carbon motor brushes, and on and on.

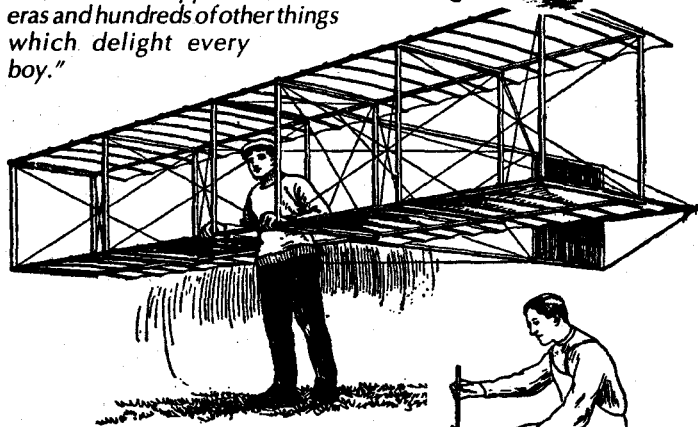
A lot of this is quaint, and not directly useful. It's for kitchen chemists. But a few of the formulas and ideas are worth the entire price of the book. If you're trying to build a master reference library of unusual secret formulas, this book is certainly worth considering. Check it out. I wouldn't have reprinted it if I didn't think it had merit. Fun reading if nothing else. Get a copy! 5 1/2 x 8 1/2 paperback 160 pages Cat. no. 20811 \$8.50

# BOY MECHANIC

## Jam-packed project book for boys!

**BOY MECHANIC - BOOK 1**  
compiled by H. H. Windsor  
reprinted by  
Lindsay Publications

"700 Things for Boys to Do.  
How to construct wireless out-  
fits, boats, camp equipment,  
aerial gliders, kites, self-pro-  
pelled vehicles, engines, mo-  
tors, electrical apparatus, cam-  
eras and hundreds of other things  
which delight every  
boy."



You may have thumbed through a copy of Boy Mechanic when you were a kid and dreamed of building just a few of the fantastic projects shown. You probably don't remember this 1913 volume.

You get wall-to-wall projects that in most cases are not too detailed, but are more than enough to whet the appetite and make you want to get started. Build a Wright-brothers style handglider! A Wimshurst machine! An arc light! An electric stove! A toy steam engine! A telegraph key! A water rheostat! An alarm clock chicken feeder! A fiat bottomed boat! An induction coil! A library table! A

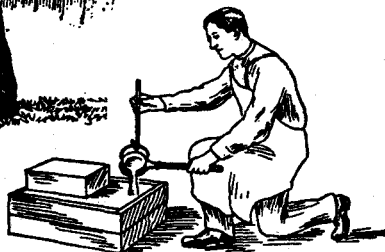
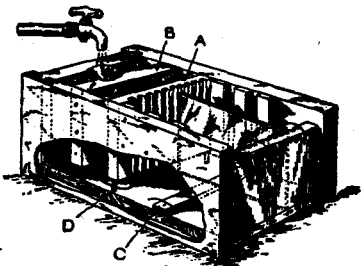
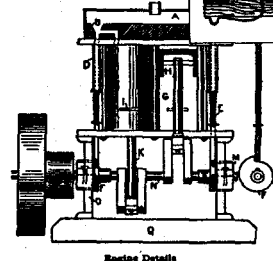
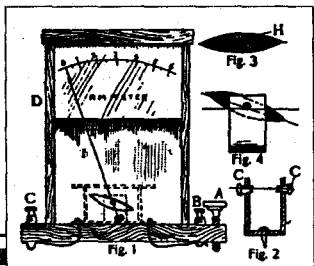


Fig. 4—Pouring the Metal

machine to put paraffin on wire! A pipe fitting steam engine! An electric postcard projector! An ammeter! A paper hot air balloon! A workbench!

You'll find information on imitation arms and armor, magic tricks of all kinds, chair carting, sundials, homemade phonographs, gymnasium equipment, an ice yacht, a pipe fitting lathe, a paper boat, a cross bow, an electric motor, glass blowing and much, much more.

Many people have asked us to reprint the Boy Mechanic. One

look through it, and you'll see why. It's a combination of practical projects, not-so-practical projects, crazy ideas, and plain ol' fun nostalgia. It's a classic book well worth your consideration. Order a copy today!

5 1/2 x 8 1/2 paperback 469 pages  
Cat. no. 4880 \$18.95

**BOY MECHANIC - BOOK TWO**  
reprinted by  
Lindsay Publications

"1000 things for Boys to Do. How to construct devices for wintersports, motion-picture camera, indoor games, reed furniture, electrical novelties, boats, fishing rods, camps and camp appliances, kites and gliders, pushmobiles, rollercoaster, ferris wheel and hundreds



# BOY MECHANIC

## Volume 2

of other things which delight every boy with 995 illustrations."

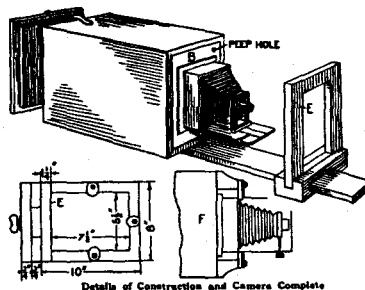
Learn how to do plane-table surveying and make accurate maps. Once you've mastered that, you'll be shown how to do the same job from carefully taken photographs. Make a four-passenger bobsled, and ice glider, snowshoes, snowball thrower, paddlewheel boat, tandem monoplane glider, movie camera and projector, laboratory gas generator, soap box racer, oil burner for cook stove, combination lock for a drawer, magic tricks, electric score board, disc-armature motor, and hundreds of other things.

You get wall-to-wall illustrations. You may attempt only two or three projects, but that's okay. You'll have countless hours of fun just browsing through this idea-generating volume from 1915. It's great.

Like volume one, this is a classic worth having. Fascinating! Order a copy. You'll like it. 5 1/2 x 8 1/2 paperback 473 pages

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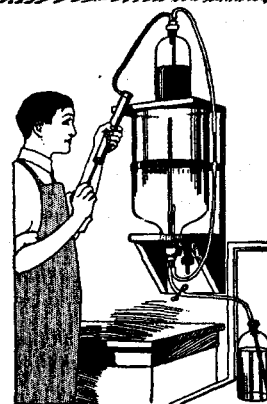
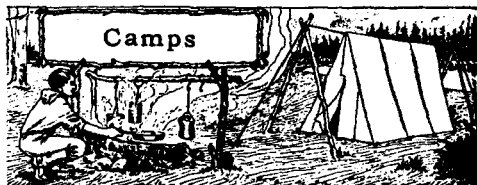


### SPECIAL HARDCOVER EDITION

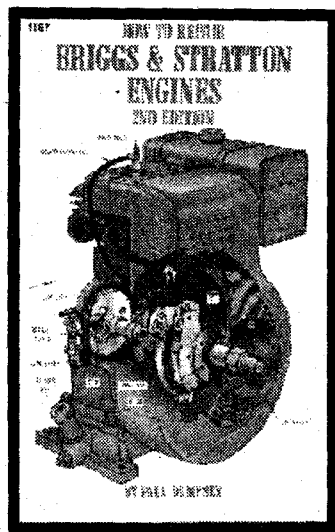
for libraries and collectors. Only a fraction of the printing has been so bound. May be out of stock for long periods of time depending on supply and demand

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\$29.95







## HOW TO REPAIR BRIGGS & STRATTON ENGINES 2ND ED

by Paul Dempsey

With this book and some scrounging you can recycle old Briggs & Stratton engines. Or you can keep your lawnmower going just one more year. Or build an emergency power plant. Or...

# FIX ENGINES

Chapters include: basics, ignition, carburetors, governors, starters, charging systems, and total

rebuilding. This book is loaded with practical how-to: adjustments, troubleshooting, assembly diagrams, charts, hints and tips and all the rest.

B&S engines are common. It seems that you should be able to pick up junkers and combine the parts to get running engines at little cost. Good basic repair book. Get a copy. 5 1/2 x 8 1/2 paperback 190 pages

Cat. No. 1265

\$9.95

# MAKE A BARREL!

**THE COOPER AND HIS TRADE (I Dare You!)**  
by Kenneth Kilby

Make a barrel. Go ahead! I dare you! Think about it. You take lumber, cut it into a number of curved, tapered staves, install circular end boards and hold it all together with iron bands. And on top of that, everything has to be so finely fitted that the finished product is water tight! Go ahead. Make a barrel. I dare you!

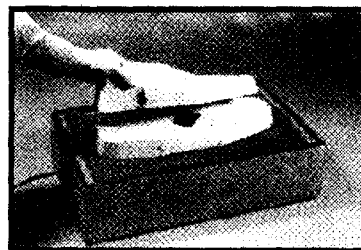
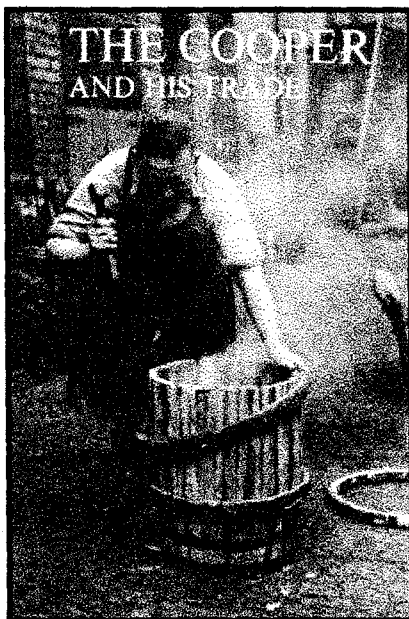
This book, originally published in 1971 in England, covers the technology of barrel making in its first five chapters. The history of barrels and the men who made them is revealed in the remaining chapters.

You'll see buckets, barrels, and tools that go back as far as the Roman times in England. And you'll see the power machinery that is still used to make barrels for distillers.

This is fascinating reading on a technology that is disappearing. If I had more time, I'd try my hand at coopering, but for now, I'll just read this book and imagine. Good book. Consider it. 6x9 paperback 192 pages 56 pages of photos - 87 drawings

Cat. no. 482

\$19.95



**"...do simple forming for around \$15.00 or less..."**

# MOLD PLASTICS! Build a Vacuum Forming Machine

Do It Yourself Vacuum Forming  
by Douglas E Walsh

The author wrote me:

"When I tried to do research for this book I was surprised at how little information there was on the subject of Vacuum Forming. When I was put in charge of buying a machine for where I work, I was amazed at how few sources there were and the high cost of a simple machine....

I tried the obvious way first, as I'm sure many other have by using a kitchen oven and shop vacuum cleaner. The results were OK, but limited to simple parts in thin plastics. The oven part works fine but the vacuum cleaner just didn't provide enough vacuum. This must be what discourages most people because real vacuum pumps cost hundreds of dollars....

Not to be discouraged, I thought about it some more and came up with eight other sources for vacuum, most of which are inexpensive and one is totally free! I was then able to combine a vacuum cleaner with a cheap source of higher vacuum. This gave me that magic combination of high vacuum and high flow necessary for serious forming.

This easy-to-read book shows you how to get set up to do simple forming for around \$15.00 or less if you scrounge for parts. You can also build a two-stage high vacuum system for \$50-\$60 that can form up to 1/4" thick plastics...."

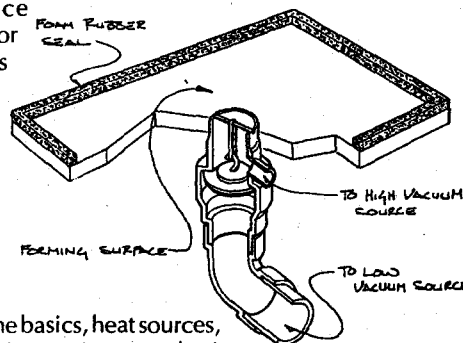
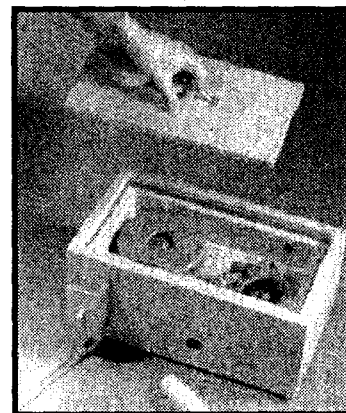
You can produce magnetic signs, parts for models, and all kinds of things if you use your imagination. You can put this simple, but powerful mass-production technique to work for you because you don't have to spend a fortune on equipment.

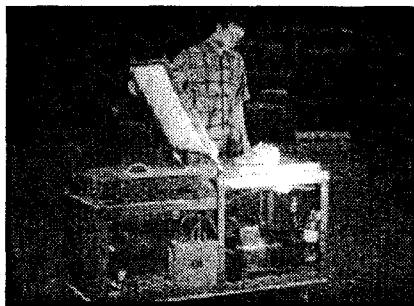
Chapters include the basics, heat sources, vacuum sources, forming equipment, plastics, molds, forming and finishing. You get straight forward to-the-point how-to with plenty of photos and drawings.

Possible money maker! Fun to try. Here's an excellent book by a man who has done it, and explains it clearly. Get a copy! 5 1/2 x 8 1/2 booklet-style spine 128 pages

Cat. no. 1308

\$9.95





## THE PROP BUILDER'S MOLDING & CASTING HANDBOOK

by Thurston James

Try this! Take a dead carp and make a couple two-part plaster molds before it starts to decompose. Then make urethane castings with the molds. These are the

techniques that Hollywood uses to make props for movies.

This is a great book all about making molds and casts for theatrical uses. You'll learn about one- and two-part plaster molds, a two-part mold using the shim method, molds from dental alginate and moulage, and a variety of molds using latex rubber, Silicone RTV rubber, injected Silicone molds and more.



## The Secrets of Casting Almost Everything Except Metal!



You'll learn what type of release compound to use for each combination of mold and casting material.

Then you'll learn how to do absorption casting with latex and neoprene casting rubber. You can make papier-mache, Celastic and fiberglass casts. You can cast with hot melts such as wax, machinable wax, hot plasticine, hot melt glue, and hot melt rubber. You can make fake "glass" bottles to break over people's heads, or panes of glass to safely throw people through during a barroom brawl (or the Christmas family get together). You might want to cast with polyester resins, urethane foam, plastic wood, Durham's Rock Hard and more.

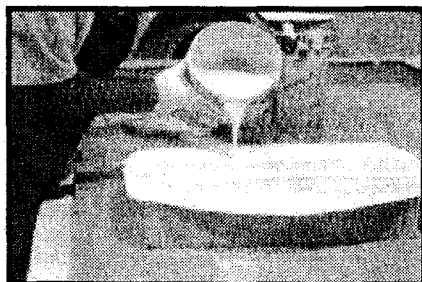


Then there is a whole section on vacuum forming with thermoplastics using a large, high-performance, home-made vacuum forming machine. You can watch as artists reproduce railings, cornice molding and even tile roofs in lightweight plastic sheeting. It's quite impressive. And the whole book shows you how you can do it, too.

You could probably make rubber masks of your mother-in-law's face and sell them at Halloween.

Wall-to-wall photos. Detailed how-to. Hints, tips and secrets. This is a book on casting practically

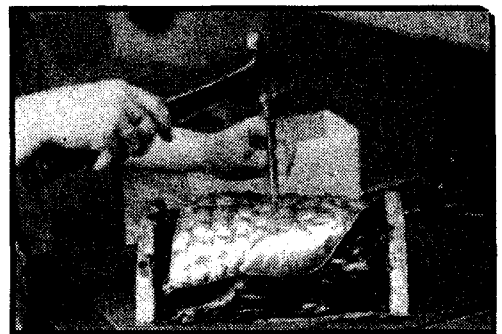
everything EXCEPT metal. Rare information. I think you'll really like it. You get your money's worth, and then some in my opinion. 8 1/2 x 11 paperback 236 pages  
Cat no 1328  
\$19.95



## THE PROP BUILDER'S MASK-MAKING HANDBOOK

by Thurston James

Here's another great book from the author of The Prop Builder's Molding and Casting Handbook. It's well illustrated and top quality.



## INCREDIBLE MASK MAKING HANDBOOK!

Making masks can be a lot of fun, but even if you're not into making a mask to cover your mother-in-law's ugly puss, you'll learn valuable lessons in working with materials. And these lessons should be applicable to other projects.

The basic sections include masks and persona, early man and his masks, life masks, the neutral mask, character masks, leather masks and the commedia dell'arte, mask-making workshop in Padua Italy, making a mask in leather, other leather-working techniques, and appendix.

Discover how to make an alginate life mask of that favorite



orthopaedic tape, celastic, and glue cloth. You'll also learn how to decorate the mask with fabric, animal fur, and how to simulate a metal finish.

The second half of the book will show you in detail how to work leather into incredibly beautiful masks. You get all the details on tanning, molds, tools, making



splices, finishing, coloring and more. These are works of art - something to be proud of.

You'll learn how to turn sheet metal into a beautiful

person in your life (other than your dog or bartender). Make positive and negative molds, and make a positive plaster copy of the life mask.

Make a plaster negative mold from an original mask design and use it to make paper mache, latex rubber, neoprene or "friendly" plastic positives. You can make a positive gypsum cement mold. And you'll learn how to create a mask from a positive mold by vacuum-forming, thermoplastic

mask with chasing and repousse. Then you'll learn the techniques involved in producing fantastic halloween masks. You'll learn skills and secrets. You may be able to make big bucks since masks are popular decorating items. Who knows?

Excellent book. Wall to wall how-to. Heavily illustrated. A book definitely worth having. Get one! 8 1/2 x 11 paperback 203 pages

Cat. no. 1340

\$19.95

## TECHNOLOGY OF CARBON & GRAPHITE FIBER COMPOSITES

by John Delmôte

Planning to build a stealth automobile that can rocket 120 miles an hour down the interstate and yet not register on Smokie's radar? If so, you'll need composites, and this book will take you into this hot technology.

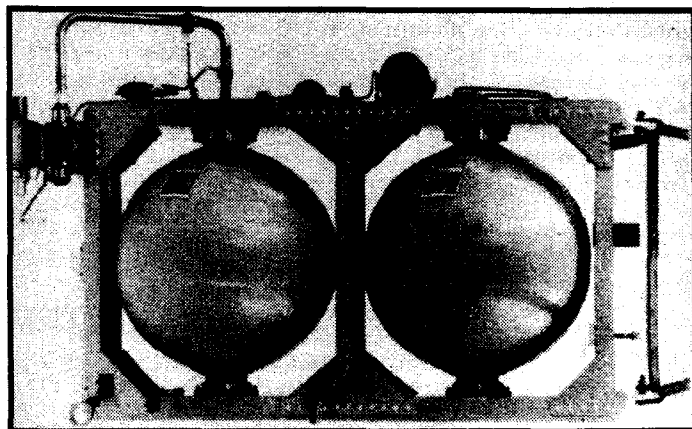
What are composites? Fiberglass is one. Here you have glass embedded in a resin matrix. Replace the glass with carbon or graphite fibers and you end up with an incredibly strong, lightweight plastic material that is used as fan blades in jet engines, as heavy duty truck springs, or even as pressure vessels to hold oxygen, nitrogen, and helium on the space shuttle.

Chapters include: origins of carbon and graphite fibers, preparation and properties of carbon and graphite fibers, synthetic

resin matrices for service to 200°C, matrices for use up to 300°C, thermoplastic matrices, surface treatments and their effect on composites, mechanical and physical properties, electrical properties and applications, environmental influences, test methods for advanced composites, composites in aircraft and automotive applications, industrial and commercial applications, high temperature resistant matrices, and manufacturing and processing techniques.

This is a great introductory industrial text. You get charts, tables, chemical structures, test data and loads of detail you'll never get from some men's magazine article. Obviously, this is not going to reveal top secret methods used by the military to build stealth fighters, but you'll come away from this book with

## Technology of Carbon & Graphite FIBER COMPOSITES



in-depth knowledge of composites.

Expensive, but this book delivers the secrets of a high-tech material science. Tune it, and

find out what's happening. Maybe you can find a way to fabricate your own! Get a copy! 6x9 hardcover 452 pages Cat. no. 1143 \$46.50

## Make Molds for Auto Bodies, Boat Hulls, & Airplane Wings!



### ADVANCED COMPOSITE MOLD MAKING

by John J. Morena

If you want to mass produce a fiberglass auto body or boat hull or just make a few replacement fenders for an antique car and sell them, you'll need a mold upon which to lay-up the part. If you're really a hot-shot you may want to fabricate an experimental airplane you've designed using carbon-graphite fibers. It doesn't matter how big or how small your project is, you'll need a mold. And here's a dynamite book on building molds.

From the dust jacket—

"All the design and engineering tools you need to produce molds that yield quality, trouble-free advanced-composite components are in *Advanced Composite Mold Making*.

Exceeding all other available works in scope and new-method coverage, this all-in-one resource guides you through the manufacture of both metallic and nonmetallic molds used to form or bond advanced composite parts and assemblies. It provides detailed instruction on how to use each kind of mold-making material and execute each mold-making process.

Step by step you will see how to use innovations such as computer-

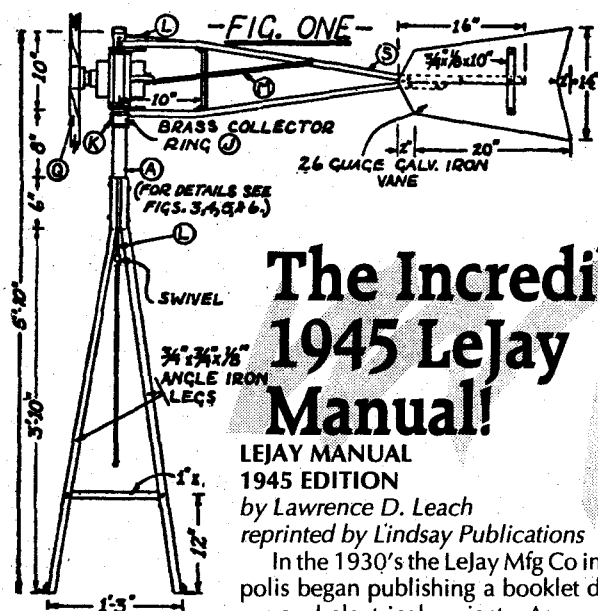
aided design and manufacture of molds and tools... preimpregnated laminate fabric materials, and mass casting compounds that can be heated to 3000 degrees Fahrenheit... techniques for making metal-faced laminate tools...and reusable vacuum bagging methods. This invaluable resource shows you how to apply these innovations to the production of molds that in turn produce reliable composite parts.

Furthermore, you will find procedures for solving any mold or tool design problem in the shortest time possible. A wealth of tabular data assists you in designing advanced composite parts for the aircraft, aerospace, marine, transportation, leisure, sport, and other industries.

Unequaled coverage of a wide range of mold materials enables you to select the material most suitable to your project. Clear guidance is given on how to use epoxy, polyurethane, plaster, wood, ceramic, reinforcements such as fillers, graphite and fiberglass, laminated phenolic, formed and machined aluminum and steel, electroformed nickel, and many other materials to make high-quality advanced-composite molds.

You can depend on *Advanced Composite Mold Making* for all the design and engineering guidance necessary for making molds for producing high-quality advanced composites. It is an indispensable reference tool for all advanced-composite engineers, designers and educators."

Other books will show you how to fabricate fiberglass, but how many give details on moldmaking? Here's the best I've seen. Consider it carefully. 6x9 hardcover 431 pages Cat. no. 495 \$67.50



# The Incredible 1945 LeJay Manual!

LEJAY MANUAL  
1945 EDITION

by Lawrence D. Leach  
reprinted by Lindsay Publications

In the 1930's the LeJay Mfg Co in Minneapolis began publishing a booklet describing unusual electrical projects. As new editions came out, new plans were added until by 1945 there were 50 separate "chapters".

Most of the articles in this edition deal with the conversion with now-antique auto generators into 110 volt alternators, other voltage generators and motors. A lot of this info was used in areas of the country that hadn't been electrified. You could buy old generators from auto junk yards, build a windmill, repair old auto batteries, and use the electricity to run homebuilt motors, welders and so on.

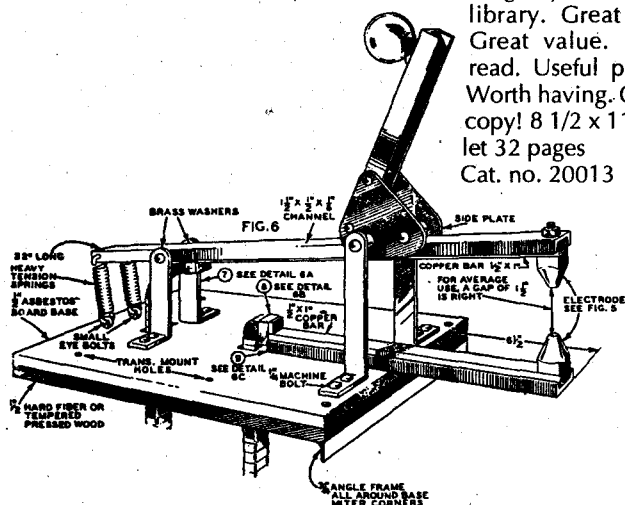
Most of the information in this booklet is now of limited value simply because you can't get the generators listed. But the rewinding data, hints and tips provided can help you in other rewinding projects for other types of generators.

There ARE several projects in this booklet each of which is worth the entire price of the publication. For instance, you can build a small but useful spot welder powered by nothing more than a string of auto batteries. You get plans for an arc welder, a trans-

former spot welder, a carbon-arc torch, electric bicycle, a water wheel, a windmill and more. Each plan is well illustrated.

This is a manual worth having in your reference library. Great ideas. Great value. Fun to read. Useful projects. Worth having. Order a copy! 8 1/2 x 11 booklet 32 pages Cat. no. 20013

\$6.95



## 50 Unusual Electrical Projects and Plans

- Plans for 110 Volt AC Light Plant made from Ford Model "T" Generator
- 200 Watt AC Generator for Automobile Made from Ford Model "A" Powerhouse
- A 6 Volt Slow Speed Generator (with plans for all-metal windmill)
- 6 Volt & 12 Volt Slow Speed Generators from Dodge "G" or "GA" Northeast Generator also from other Generators
- A 32 volt slow speed wind light Plant Generator
- One 32 Volt Motor, One 110 Volt Motor, One 32 Volt Generator, One 110 Volt Generator from Dodge Generator
- How to Make a Grinder, Series Motor, Constant Speed Motor, A Universal AC or DC Motor and a Soldering Iron
- A 75 to 110 Ampere Arc Welder Made from Dodge "G" or "GA" Generator. Also Dual Welders.
- Pendulum Type Fence Controller made from Ford "T" Coil
- Plans for Building a Complete Wind Light Plant Including Tower, Propeller and Generator Charger
- A 110 Volt AC Light Plant Generator
- A "B" Eliminator For Your Battery Operated Radio
- An Automobile Generator Booster Control
- A 6 Volt Slow Speed Generator from Standard 14 Slot 28 Bar Generator
- A 32 Volt Constant Speed Generator made from Ford "T" Generator
- A 2 Volt Slow Speed Generator from Standard 14 Slot 28 Bar Generator
- How to Convert A 6 Volt Cut-Out for 2 Volt Operation
- Directions for Repairing Your Own Batteries
- A Water Wheel Made from Old Automobile Wheel
- An Electric Outboard Motor from Old Ford "T" Generator
- A Gas Engine or Motor Driven Generator with Drawings in Detail
- An Armature Growler for Testing Auto or Slow Speed Armatures
- Two 32 Volt Series Motors from Dodge "G" or "GA" Generator
- A 32 Volt Heavy Duty Motor made from Dodge "G" or "GA" Generator
- A Bench or Breast Drill for 6, 12, or 32 Volts from "T" Generator
- A 6 Volt Motor for Drill Press, Washing Machines, etc. made from Model "T" Generator
- One 12 volt Motor and One 32 volt Motor Made from Model "T" Generator
- Two 6 Volt Generators from the Dodge, also general information
- A 110 V. or 220 VAC Portable Transformer for Arc Welding
- A 110 Volt Spot Welder — 1 Kw. Input Normal Draw 10 to 11 Amps
- A Direct Drive 32 Volt Wind Plant — All Metal Construction
- A Battery Spot Welder
- Armature Diagrams for Autolite, Bosch-Autolite and Bosch Generators
- Armature Diagrams for Delco, Delco-Remy, & Remy Generators
- Armature Diagrams for Ford A, B and V8 Generators
- Armature Diagrams for Northeast Generators
- Armature Diagrams for Atwater-Kent & Dyneto Generators
- Armature Diagrams for Leece-Neville Generators
- Armature Diagrams for Wagner Generators
- Armature Diagrams for Westinghouse Generators
- Plans for Installing Lights on Your Tractor
- Two Types 110 Volt AC Insect Exterminators
- An Electric Scooter Using a 6 or 12 volt Battery for Power
- An Electric "Go Bike" Using a 6 or 12 volt Battery for Power
- A Carbon Electrode Holder for Soldering, Brazing and Light Welding Direct from Six-volt Storage Batteries
- Ball Type Fence Controller Made from Ford "T" Coil
- 110 Volt AC 500 Watt Self Excited Generator from Dodge Model "G" or "GA" generator
- 110 Volt AC 60 Cycle 1/2 HP Synchronous Motor from Dodge Model "G" or "GA" Generator
- An AC Welding Transformer Using Dodge Generator Coils

Appendix: Windpower Information, Definitions, etc



# CONTENTS

(Magnifying Glass Required)

How to Make an Electric Fireless Cooker, An Alarm That Rings by Sound, Make Your Own Electric Toaster, An Electric Stop for the Phonograph, Make the Alarm Clock Turn on the Light, Lighting the Gas Stove with an Electric Spark, A Simple Socket for Small Electric Battery Lamps, The Pocket Flashlight May Become a Spot-Light, Immobilizing Baby's First Shoes, Home-Made Electrical Device Keeps Cigars Moist, Locating a Projecting Nail in a Shoe by Flashlight, Taking Care of the Storage Battery, Making a Wet Battery from Ordinary Dry Cells, Did You Forget to Put Out the Cellular Light, A Suggestion for Lighting a Club-House, How to Use an Old Nitrogen-Filled Lamp, A Milk-Can Vacuum Cleaner, A Small Motor Used to Open Large Doors, An Indirect-Lighting System for Your Own Home, A "Loaded" Door-Bell Button, How to Reduce Polarization in Sal Ammoniac Door-Bell Cells, Repairing the Wires on an Electric Iron, A Reliable Solution for the Electro-Deposition of Aluminum, A Reel for Winding Up an Electric Test Cord, An Electrical Spot-Light for the Sewing Machine, The Underwriter's Knot for Flexible Cords, A Fire-Alarm to Be Attached to an Oil Heater, An Alarm to Announce the Charged Storage-Battery, An Inexpensive Electric Coffee-Pot, Why That Sewing Machine Motor Slips, How to Make a Miniature Electric Reading Lamp, Taking Flashlights by Electricity, How to Make a Two-Step Night-Light Transformer, Make Your Own Christmas Tree, The Burglar Makes a False Step, Increasing the Voltage of a Dry-Battery, To Prevent the Ears from Perspiring When Using Telephones, The Sleeper Must Get Up to Stop the Alarm, An Electro-Thermostatic Control for House-Heating Boilers, An Electrically-Heated Inhaler for Respiratory Troubles, The Ordinary Buzzer Used for a Shocking Machine, Why Stay Awake to Call the Nurse, A Toy Electric Signal for Miniature Trains, How Short Circuits Occur on an Automobile, Why Use a Step-Ladder to Change Incandescent Light Bulbs, How to Make All the Clocks Strike at Once, Drying Shoes with Heat from an Electric Globe, Twisted Picture-Cord Used for a Fan Motor Brush, The Electric Lamp As a Cooking Device, New Applications of Electricity, An Electrically Driven Gyroscope and How It Acts, Strong Wireless Signals in Winter Time, Electricity Direct from Coal, How Electric Signals Direct a Big Show, Connecting a Spotlight, in an Automobile Dynamo Circuit, Moving X-Ray Pictures, Describing the Electric Circuit by Comparing It to Hydraulic Circuit, An Effective Method for Recharging Dry Cells, A Silver-Plating Bath and How to Use It, How Electrolysis Destroys Water-Mains, The Effect of Electricity and Music on the Human Organism, Photographing Music on a Film, X-Raying the Oyster for Pearls, Testing Tips for the Electrician, A Soldering Iron Heater, A Speed Indicator Will Count the Turns for Your Coil, Paper Strips on Armature Amplify a Buzzer Tone, How to Test the Strength and Stability of Magnets, Charging Storage Cells from Service Mains, Railroad the Telephone in a Crowded Office, An Elaborate Electrical Plug-In Clock, Poor Contact Will Impair Battery Efficiency, Improved Electrode for a Water Rheostat, An Emergency Repair for Commutators, Testing the Polarity and Compounding of Motors, A Magnetic "Fishing" Tool for Locating Blind Wiring, A Coating to Make a Battery-Box Acid Proof, An Arm-Band to Hold a Lineman's Tools, How to Tie the Invisible Armature Knot, Tinfoil Used As a Substitute Fuse, Utilizing a Second-Hand Magneto, A Shutting-Out Switch for an Ammeter, Electric Lights to Call Employees, Thermostat Made from a Brass and an Iron Strip, A Lamp Guard to Keep Large Electric Bulbs from Falling, Making an Electrical Socket from Wood and Strips of Brass, A Simple Base for a Small Battery Lamp, Soldering Large Vertical Cables by the Pouring Method, Why Distilled Water is Used for Batteries, Cutting or Breaking Gage-Glass with Electricity, Home-Made Rheostat for Service Lines or Batteries, A Magnetic Lifter for Engine Valves, Three Worm-Out Dry Cells Make One Good One, A Good Warm-Out Dry Cells Make One Good One, Light the Inside of Your Touring Car, Positive or Negative Which is Which, Turn on the Light with the Power, A Low-Tension Magneto Becomes a Dynamo, Correcting Engine Starter Trouble, An Electric Light for the Lawn-Mower, Removing Sediment from Storage Battery Cells, Making Silver Contact Points for a Spark Coil, An Inexpensive Method of Charging Storage Batteries, A New Device for Testing Electric Light Bulbs, A Winding Machine with a Revolution Counter, The Normal Running Temperature of Electric Machines, Automatic Telephone System Invented by Undertaker, One Bell with Two Push-Buttons, Making Tape from Cotton Cloth for Electrical Work, How to Use a Hairpin As a Switch Fuse, An Emergency Lamp for Traffic Regulating Post, Resonant Annunciator to Operate on Alternating Current, Making a Night Light of Battery Cell and Miniature Lamp, Drying Out a Generator or Motor, A Spark Plug Tester with an Inclosed Spark Gap, The Proper Care of Electric Motor Brushes, A Few Tips on Splicing Fuse for Discharging Dynamite, Repairing a Magneto with Spark-Plug Porcelain, Terminal for Testing Direct-Current Armatures, Restoring Bichromate of Potash Used in Battery Solutions, Locating a Reversed Coil in an Armature, Locating and Repairing Short-Circuited Armature Coils, A Simple Way of Cutting Miniature V-Rings to Fit on an Armature, A Combined Electric Night-Bell and Flash-Light, Making an Electrically-Heated Blue-Print Dyer, This Lighthouse Sends Radio Fog Warning Far Out to Sea, End-Cell Control on Constant Potential Lines, Telephone Receiver Used to Detect Grounded Armature, To Make an Electric Cigar Lighter, Testing Electric Wires for High Tension

Currents, Make a Support for Spark-Plug Wires, Weighing the Base of a Home-Made Lamp, Controlling an Oil Cup by Means of an Electromagnet, How to Make a Simple Soldering Fluid, An Electric Bell Signal to Indicate Falling Snow, Control the Lighting Switch Through the Window, Shave with a Spot-Light on Your Razor, Connecting Dry Batteries to a Flashlight, Opening the Door Turns on the Light, Using the Electric Motor for Reaming and Drilling, A Pocket Voltmeter in an Old Watch-Case, Don't Snap a Switch and Wake the Baby, Interior Photography for the Amateur, A Clamp That Holds the Lamp in Position, How to Make a Stepless Transformer, A Polarity-Changer for Reversing Lighting Battery Current, An Emergency Form for Winding Motor Fields, A Spot-Light for Amateur Theatricals, Amalgamating Zinc Plates for Battery Cells, How to Make a Simple Electric Engine, This Inducing Coil Locates Armature Troubles, Making a Toy Transformer, Protecting Drop Cords Over Machinery, Making Small Generators from Telephone Magnets, How to Construct a Voltmeter for Experimental Work, Precaution Against Shorting Batteries, Simple Method of Making Storage Battery Cells, Switchboard Constructed for Use in the Laboratory, Home-Made Electric Furnace for Heating with Arc Light, Shocking Device That Works on the Commercial Current, Making a Selenium Cell for the Laboratory, Handy Dark-Room Lamp Made from a Tin Can, An Electrically Driven Toy Tank That Goes "Over the Top", A Quick-Break Knife Switch of the Hinged Type, A Substitute for Storage-Battery Separators, A Simple Battery Tester, A Difficult Job in Electrical Soldering, Electrical Wizardry at Home, Locating Grounds on Alternating Current Circuits, A Twenty-Five Mile Electric Signal Projector, Design of a Form for Winding Electrical Coils, This Toy Gun's Projectile Driven by Magnetism, A Semaphore Signal to Summon Taxicabs, A Cheaply Constructed Arc-Type Soldering-Iron, An Electrically Operated Camera, A Loud Speaking Telephone, The Construction of a Two-Inch Spark Coil, A Simple Type of Home-Made Magnetograph, Door-Bell May Be Attached to a Lighting Circuit, An Insulation for Secondary Terminals on Transformers, Safety in Working with Live Wires, An Electroscope for Detecting Small Electric Discharges, How to Make an Electric Laboratory Furnace, Rubber Nipples Make Fine Insulators for Test Clips, Signal Light to Show Gas Turned Off at Oven, How to Insulate the Ends of Chair Posts, Remedying Trouble from Poor Switch Location, A Telegraph Sounder Made from Old Bell Parts, Constructing a Dry Cell Which Can Be Renewed, A Bench Light Bracket Made from Automobile Parts, An Electric Photo-Printing Machine to Suit Everybody, Tool for Winding Solenoids Made of a Thread Spool, Wire Insulation Made from Tire Filler, Flash Pistol Ignited by a Motor Vehicle Spark, A Clip for Removing Insulation from Wires Quickly, Electrical Attachments to Make a Surprise Chair, Numerous Uses for the Electric Iron, A Delicate Sound Amplifier for Telephone Receivers, How to Make a Laboratory Rheostat, A Testing Set That Does Not Use a Battery, Cleaning Spark-Plugs with Phonograph Needles, An Electric Heater for a Toy Steam Engine, Fastening Binding-Posts to Carbon Electrodes in Cells, A Super-Sensitive Microphone for the Laboratory, How to Construct a Dry-Cell from Tinfoil, There's the Rain-Alarm - Close the Window, An Emergency Battery for Starting an Automobile Motor, A Little Light on the Incubator Question, A Locking Cage Shield for a Spark-Coil Box, Fuse Tongs Made of a Piece of Fiber, Teaches Magnetic Attraction, A Temporary Repair for a Slipping Magneto Shaft, A Detector Stand Having a Set Adjustment, The Use and Construction of Volta's Electrophorus, An Electric Torch Made of Bichromate Solution in a Bottle, Encasing a Dry Battery Cell to Keep Out Dampness, A Soldering Acid Receptacle with a Brush Spout, A Gravity Electric Bell Made of Odds and Ends, A Home-Made Electric Lantern for a Dry-Battery Cell, Sandpapering Commutators with a New Holder, Simple Oscillograph to Record Current Alternations, Making a Battery-Charging Apparatus, Resistance in Circuit to Make Double Tone Automobile Horn, Ingenuity Shown in an Electric Arc-Lamp, A Simple Automatic Signal for Garages, A Hand-Operated Ceiling Switch, Anyone Can Make This Electric Water-Heater, A Home-Made Dark Box for Printing Developing Paper, Ideas for Radio Enthusiasts, Riding Radio of Static, Use a Water Rheostat to Control the Filament, This Universal Hook-Up Adapter Saves Wear, Practical Operation of Thermionic Detectors, An Old Telephone Receiver Made into a Test Buzzer, A Simple Method for Determining Condenser Capacity, An Improved Design for a Grounding Switch, Do Your Soldering Without the Plumber, Apparatus for Sending Wireless Messages from Airplanes, An Easily Constructed High Tension Insulator, Will This Do Away with the Radio Tower, A War-Time Radio-Telephone Transmitter, Interesting Method of Learning the Telegraph Code, A Wireless Telephone in a Tree-Top, A Convenient Way to Carry Soldering Paste, A Self-Translating Telegraph Line for Amateurs, Insulation to Splices Made in Electric Wires, A Fine Adjustment Detector Easily Made at Home, Make Old Vacuum Tubes into Geissler Glow Lamps, Charging Storage Batteries with Direct Current, How to Get Music from Electron Relays, Method of Insulating Secondary "Pipes" in Transformers, A Simple Undamped Wave Receiving Set for the Amateur, A Simple Vacuum Tube Receiving Set, An Extremely Sensitive Crystal Detector Receiving Set, How to Hook up an Audion Detector and Amplifier, Jacks Localize Trouble, How Panel Should be Mounted, Glossary of Radio Terms

# MAKE THINGS ELECTRICAL!

## Jam-Packed Electrical Projects and Ideas! Fun Reading!

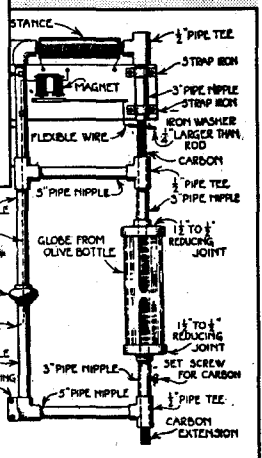
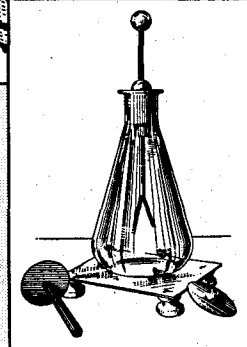
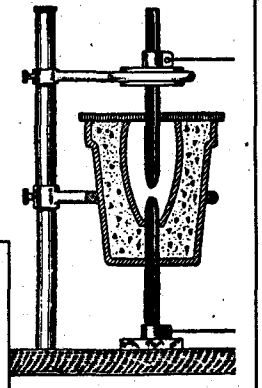
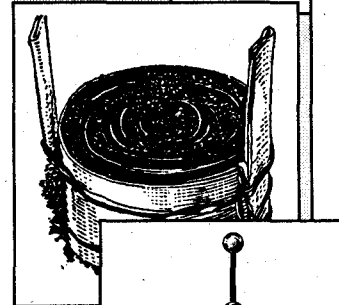
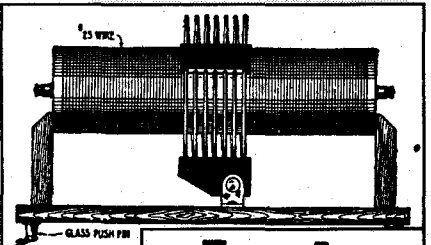
HOW TO MAKE THINGS ELECTRICAL

compilation by UPS Book Co

reprinted by Lindsay Publications

Here you get a collection of short, nifty electrical collection articles that first appeared in the pages of *Popular Science Magazine* just after World War I. Each is illustrated, and regardless of whether or not you build anything, you'll enjoy what you get here. This is a sort of electrical equivalent of the *Boy Mechanic* books.

Some of this not worth doing. Do you really want to build a toaster? But the Tesla coil that gives a 12" spark is very interest-



ing (you may have seen it reprinted in other books). You might want to try making the electric cannon, the magnetograph, and electro-scope, and more. If you're careful, you might want to try to make a selenium photo cell. You get numerous articles relating to motors, testing them and repairing them. You can make a water rheostat, a storage battery, arc furnace, simple arc lamp (I can smell the ozone, now), and much more.

Great ideas. Lots of fun. Something for everyone. Get a copy. 5 1/2 x 8 1/2 paperback 427 pages Cat. no. 21494

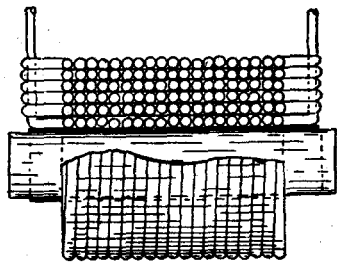
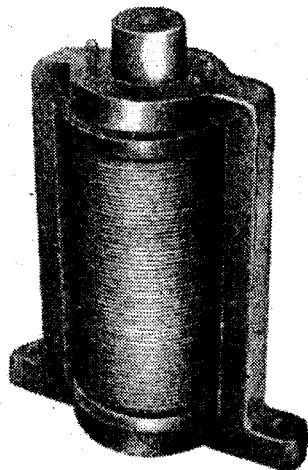
\$12.95

# ELECTROMAGNETS

## SOLENOIDS, ELECTROMAGNETS AND ELECTROMAGNETIC WINDINGS

by Charles R. Underhill  
reprinted by Lindsay Publications

Creating an electromagnet is quite easy as Faraday discovered, and as you and I know. But creating an electromagnet that generates a field of needed intensity, drawing minimal amperage at available voltage without overheating is not so easy. Few people know how it's done. Here you'll learn the secrets of creating working electromagnets.



Chapters include: magnetism and permanent magnets, electric circuits, electromagnetic calculations, the solenoid, practical solenoids, iron-clad solenoid, plunger electromagnets, electromagnets with external armatures, electromagnetic phenomena, alternating currents, AC electromagnets, quick-acting electromagnets and methods of reducing sparking, materials and bobbins, insulation of coils, magnet wire, insulated wire, windings, forms of windings, heating of windings, and tables and charts. There are also 233 illustrations listed showing everything from a practical multiple-coil winding to rim solenoids telescoped to form disk solenoids.

Underhill was a consulting electrical engineer who put this book out in 1910 and created

this 2nd edition in 1914. This is reprinted from one of the fourth thousand printed in 1921.

You get a practical book. The math you get is completely practical and useful. The charts are practical. All of the information is practical.

Some things have changed since 1921 such as better insulation and higher-permeability iron, but amps are still and amps and Oersteds are still Oersteds.

Why not build a powerful electromagnet and put it in the bushes outside your house? Pulse the juice to it, and you can roll cars over on their side as they drive by! Imagine the effect it would have on that steel plate your mother-in-law had to have installed in her head after you attacked her with the ax handle! Imagine the fun!

Or build that perpetual motion machine that some people claim is possible. Or how about a flying saucer? Or how about just getting a copy for your reference library? When the need arises, you'll have rare information immediately available. Excellent book. Get one! 4/12 x 8 paperback 342 pages

Cat. no. 20960 \$13.95

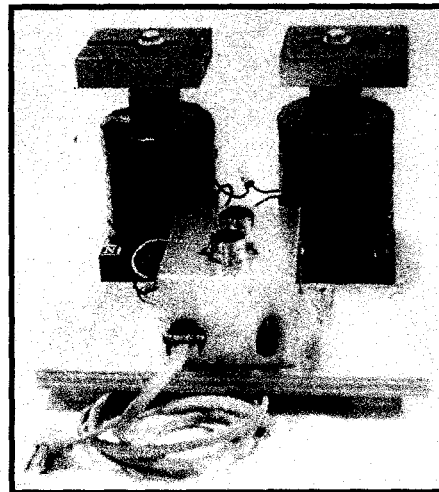
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## HOW TO BUILD A MAGNETO MAGNETIZER

by Dave Gingery

Old internal combustion engines – you know, the “ol’ one lungers” – generate high voltage for the spark plug by rapidly spinning a permanent magnet by a coil of wire. Many people collect and restore old engines and in the process discover that the old iron magnets have lost most or all of their magnetism. Without a healthy spark, the engine won't run.



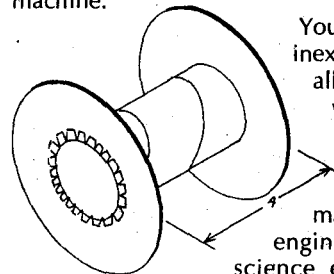
Here, Dave will show you how to build a device to recharge these old magnets. It's certainly not a novel invention. What Dave has done is show you how to build a proven device from currently available materials, and at low cost.

You can recharge old magneto magnets, and create new iron magnets for experimental purposes. This will not recharge newer alnico, samarium, and similar

## Build a Magnetizer! Make and Restore Magnets

alloy magnets since these need an enormous magnetic impulse beyond the capabilities of this machine. And beside these newer magnets usually don't go “dead” like “plain” ones.

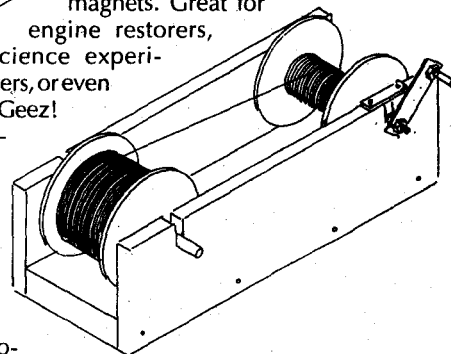
Dave will show you how a magneto works, how to test one, how the magnetizer works and will show you in detail how to build one. He'll give you all the tricks on building the base, winding the coils, building and testing the power supply, and, of course, on using the machine.



You can build this machine quickly and inexpensively. It's really not difficult at all. Dave will show you how to avoid what few problems you might encounter.

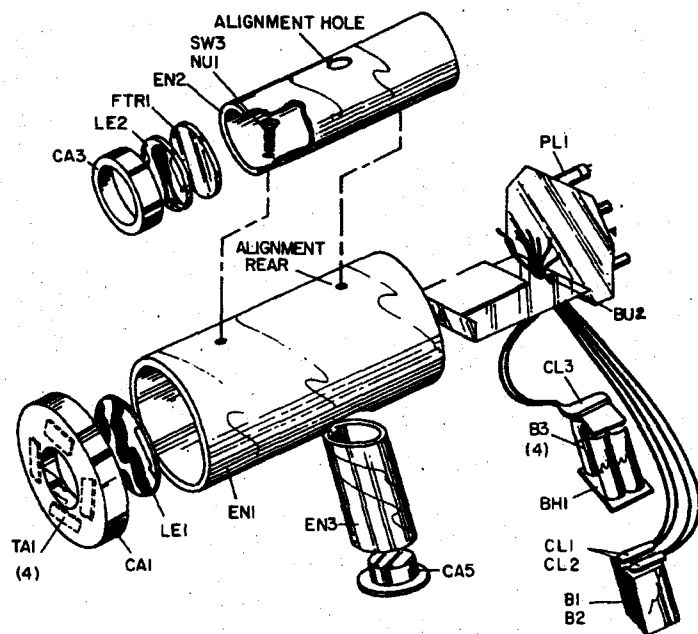
Get a copy of this. Restore magnetos, or make new soft iron magnets. Great for engine restorers, science experimenters, or even

as a science fair project. Geez! Maybe you can magnetize that bolt in your neck so you can attract beautiful women. Well... maybe not. Another great how-to manual from master builder, Dave Gingery. Order a copy today. 8 1/2 x 11 booklet 36 pages  
Cat. no. 3008



**GREAT PLANS!**

\$7.95



## LASERS! PHASERS! ION RAY GUNS!

### BUILD YOUR OWN LASER, PHASER, ION RAY GUN. . .

by Robert E. Lannini

Here's one of the most bizarre collections of how-to plans I have ever seen.

You'll learn how to build high-power pulsed red ruby laser gun, high-power continuous IR CO2 Laser, ultrasonic field generator, programmable high-power ultrasonic generator, 250,000 volt Tesla coil, magnetic field distortion detector, solid-state Tesla coil, a variety of wireless "bugs", a super-sensitive parabolic microphone, electronic paralyzing device, battery charger and eliminator and much more.

Lannini is an experienced electronics inventor, and holds many patents. He'll give you parts lists, wiring diagrams, assembly diagrams and all you need to get these projects built. I don't think that it's any coincidence that almost every plan has a footnote telling you that kits are available from Information Unlimited, Inc., which is owned by the author and which advertises in the back of the science and mechanics magazines. No doubt, that firm's best selling plans have been re-

- beginner's simulated laser
- visible red laser
- pulsed laser rifle
- ruby laser gun
- CO2 laser
- laser light detector
- plain field generator
- phaser shock-wave pistol
- ultrasonic generator
- ultrasonic listening device
- 250 kv Tesla Coil
- ion ray gun
- magnetic field distortion detector
- light-beam communicator
- solid-state Tesla coil
- infrared viewer
- FM voice transmitter
- long-range telephone xmtr
- parabolic microphone
- paralyzing device
- wireless repeater xmtr
- much, much more!

printed in this single volume.

This book is expensive, but it delivers. I really like this, and I'm sure you will too. Order a copy, even if it has to sit for two years on the shelf before you get ready to build. Excellent book. 8 x 9 1/2 paperback 390 pages. Cat. No. 346 \$17.95

### PERMANENT MAGNET DESIGN

by Lester Moskowitz

Back in print! For now at least... The best magnet book I've seen.

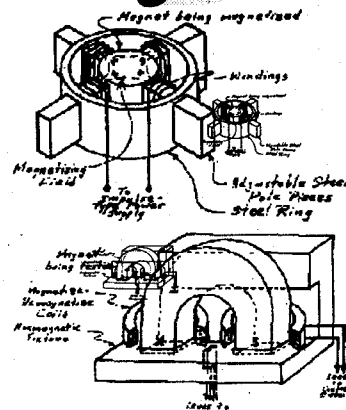
Opening this book gives you the feeling you've opened the lab notebook of a famous magnet scientist. It's loaded with drawings, diagrams, equations, notes, hints, tips, circuit diagrams and more.

Chapters include brief history of magnets, terms and definitions, classification of magnets and materials, basic manufacturing processes, fundamentals of magnetism, general design considerations, leakage and fringing, circuit effects, exact design methods, and on and on.

You get all kinds of information and making, testing and using magnets from a circuit diagram for a 100 joule impulse magnetizer to suggestions for use in magnetic drives, motors and magnetos, magnetic welding benches and much more.

Expensive! But the best

## Permanent Magnets!



book of its type I've ever seen. Just the right mix of theory and practical application. Rare information. If you think you'll ever need it, get it now. It went out of print once, and is being reprinted by another small publisher. I'm glad to see it's back. 9x12 hardcover 443 pages heavily illustrated Cat. no. 1149 \$65.00

## INTRO TO MAGNETISM

### MAGNETISM

#### AN INTRODUCTORY SURVEY

by E. W. Lee

After the history of magnetism comes the good stuff.

"...We then learn the principles behind electric motors, dynamos, transformers, permanent magnets, synchrotrons, solenoids, memory banks in computers, betatrons, magnetic supercooling, and other modern applications...."

"The author shows us how magnetism 'works,' with reference to such concepts and principles as lines of force; ferromagnetism; the atomic theory of matter in relation to electromagnetic properties; paramagnetism and diamagnetism; quantitative measurement of magnetic force; domains and domain boundaries; high-permeability alloys, their theoretical basis and uses; magnetic matrices used as

computer-age storage devices; ferromagnetism and antiferromagnetism; the use of magnetism in modern scientific research; and problems of the earth's magnetism, including its meaning to Wegener theory of continental drift and solar phenomena."

You get 60 diagrams and sketches and more than 32 pages of photographs. If

you want to explore the theory, you can study the mathematics that explains magnetism. This is one heck of a lot of book for the money. And it's must reading for basement engineers, experimenters, even the guy who's trying to build a magnetic motor or perpetual motion machine. Great background

information. Order a copy. 5 1/2 x 8 1/2 paperback 281 pages Cat. no. 365 \$6.95



# Rewind Small Motors

REWINDING SMALL MOTORS

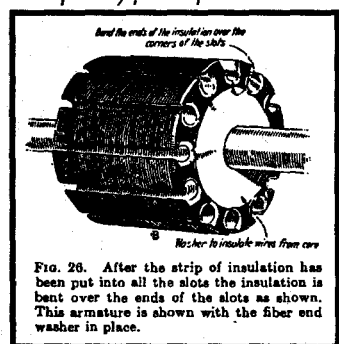
by Braymer & Roe

"Practical details of repair-shop practice with step-by-step procedure for rewinding all types and designs of fractional-horse-power direct and alternating current motors"

This book first appeared in 1925, but this is a reprint of the third edition that appeared in 1949. And it IS excellent.

From the preface to the first edition:

"Armature winding calls for a combination of skill, care, and common sense together with a practical knowledge of motor construction and operation that usually grows out of years of winding and repair experience. But even the experienced man cannot always acquire the same degree of skill in rewinding all varieties of motors. However, when experience is supplemented by practical information in usable form, any good winder can quickly pick up the essential



details that make a good winding job.

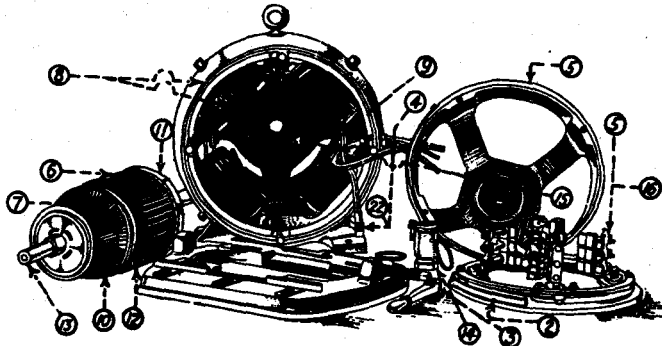
...The authors have attempted to compile in this book the details for...

**GONE!**

NO LONGER BEING PRINTED!  
(I TOLD you not to wait, didn't I?)

...step-by-step details from the start to the finish of a winding job so as to make it easy for the experienced winder to understand the procedure, to give him a grasp of the essential requirements of the windings that are used by the manufacturers of small motors, and to enable him to rewind or change them as

# ARMATURE WINDING AND MOTOR REPAIR



## ARMATURE WINDING AND MOTOR REPAIR

by Daniel H. Braymer  
reprinted by Lindsay Publications

From 1920 comes this motor rewinding book loaded with drawings and photographs that will show you how to rebuild both AC and DC machines.

Chapters include: DC machines, AC machines, shop methods of rewinding DC armatures, making commutator connections, testing DC armature windings, operations before and after winding DC armatures, insulating coils and slots for winding, shop methods for rewinding AC machines, testing induction motor windings for mistakes and

faults, adapting DC motors to changed operating conditions, practical ways for reconnecting induction motors, commutator repairs, adjusting brushes and correcting brush troubles, inspection and repair of motor starters and generators, diagnosis of troubles, methods to solve special troubles, tables and more.

You'll find a chapter that shows you how to build special tools and jigs, an armature sling, a pinion puller, coil winding machine, a coil taping machine, commutator slotter, armature banding machine and more.

The motors described are large types used in factories. But the principles apply to the smaller

motors you and I use. You'll learn how to reconnect induction motors for different voltages and phases, how to operate a DC motor as a generator and vice-versa, change the DC motor windings for different voltages, and more.

You'll be taught all the techniques - from removing old windings and cleaning slots, to winding the coils, insulating the end connections, inserting the coils, painting the windings, relining split bearings, and much more. You get data on all types of wave and lap windings, varnishing and insulating materials, and much more.

I make you no promises, but this is the logical place to start should you want to rewind a motor to particular voltage, wind a generator or alternator for use with a windmill or waterwheel, rewind a big generator for use as a welder, modify a DC motor for use in an electric car, and so on.

This is a beautiful book. You get over 500 pages of clearly written, wall-to-wall practical how-to with excellent illustrations. It's a gem that should be in the reference library of most "machine freaks" (that includes you, son). Get a copy 5 1/2 x 8 1/2 paperback 540 pages Cat. no. 4384 \$18.50

# Run Three Phase Motors On Single Phase Power!

Yes! You can run three-phase motors on single-phase power using any one of three excellent methods in use since the turn of the century. First, lathes, drill presses, and other machine tool motors can be run with the capacitor method. Second, the autoformer method (a technique you should buy rather than build) is useful for motors running under continuous full load. And finally you can run a whole shop full of three-phase motors from a single, easy-to-build dynamic converter! No rewinding is necessary. These methods are good to at least 150 hp and 220 volts! Low starting currents and excellent power factor are possible.

Basic three-phase and induction motor theory is included. This booklet and some experimentation can have you up and running. 5 1/2 x 8 1/2 booklet 15 pages, 18 illustrations - a BARGAIN!

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only \$3.00

# ALTERNATOR SECRETS!

## ALTERNATOR SECRETS

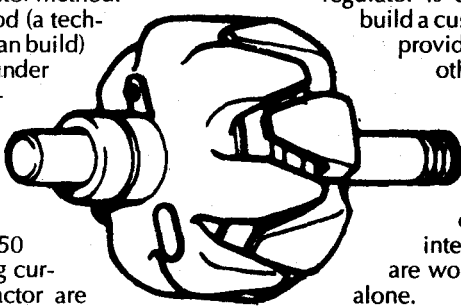
If you know the secrets of modification, you can get large amounts of power from a common auto alternator. You can build a portable powerplant driven by a gasoline engine to run brush-type power tools, lights, and AC-DC appliances at remote locations. You can hot-charge storage batteries, or even do light arc welding. Operation of the regulator is explained so that you can build a custom regulator, if needed, to provide regulated output voltages other than 12.

Learn how you can make almost any ordinary induction motor (like an old washing machine motor) put out 120 volts at 60 cycles without rewinding or internal rewiring. These secrets are worth the price of the booklet alone.

We've jammed a ton of information into 16 pages with small type to keep printing costs down so that we can keep the retail price the same as the old edition. Valuable, rare info! Get a copy. 5 1/2 x 8 1/2 booklet 16 pages

Cat. no. 80

\$3.00





# Generator Modifications!

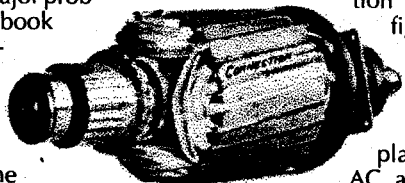
**AUTOPOWER**  
Automobile Generator  
Conversions & Modifications

by S. W. Duncan  
reprinted by Lindsay Publications

From out of the Great Depression comes this unusual book on ways to make auto generators produce unusual amounts of power. The major problem with this book

is that the generators shown being rewound are not easy to find. But the principles taught here can with imagination be applied to modern generators, DC motors, starter motors and more. You get detailed, practical how-to that can be adapted to modern needs.

Chapters include changing a Ford Model A generator to a 110 volt alternator, get constant voltage at variable speed, converting a Dodge 12 volt generator into a 110 volt 500 watt alternator, changing a Model-T to 110 volt



AC, making field and armature coils, changing a Delco generator to 110 Volt AC, the winding of automobile armatures, characteristics of DC generators, suggestions on mechanical construction of generators, figuring a new winding for an old frame, converting a farm light plant to 110 volt AC, and more.

We reproduced this from a stained, greasy, and obviously used copy of the original 1935 edition, and although the reproduction is not perfect, it is surprisingly good.

Get a copy of this. This is one of those manuals that people talk about having seen years ago, but can no longer find. Unusual info. Order a copy today.

5 1/2 x 8 1/2 paperback 56 pages  
Cat. no. 4791 \$4.95

# Storage Batteries!

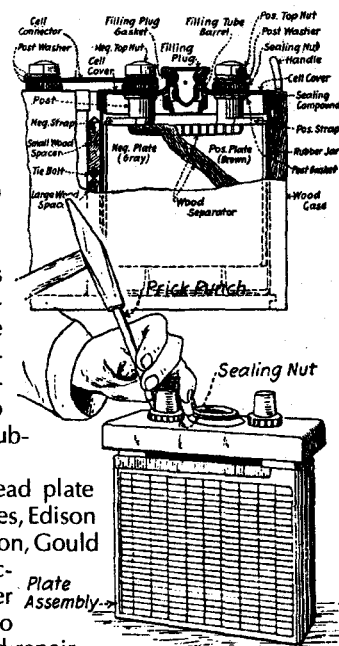
**STORAGE BATTERIES SIMPLIFIED**

by Victor Page  
reprinted by Lindsay Publications

It's old, 1917 to be exact, but it's darned good. Modern storage batteries have plastic cases and plate separators, but in operation, performance, and maintenance batteries really haven't changed too much since this book was first published.

Five chapters cover simple lead plate batteries, Plante plates, pasted plates, Edison batteries, details of plate construction, Gould plates, Exide plates, separator function and more. One whole chapter deals with battery defects, how to make electrolyte, dismantling and repairing batteries. You get full details on how to charge batteries, plus a chapter on their use covering auto starting and lighting, electric autos, railroad use, street cars, mines and even WWI submarines!

I don't think the battery repair instructions will be very useful with modern batteries, and I wouldn't even try to build some of the battery chargers described. Nevertheless, there is so much excellent material here that I give it high marks. Loaded with photographs, drawings and charts. 5 1/2 x 8 1/2 paperback 220 pages  
Cat. no. 4473 \$8.95



# HOW TO LOOK THINGS UP

**HOW TO LOOK THINGS UP  
AND FIND THINGS OUT**

by Bruce L. Felknor

From the back cover—

"There are thousands of reference books on the shelves of libraries and other research facilities today — all unique and all a little intimidating. *How to Look Things Up and Find Things Out* shows you how to navigate the convoluted and confusing world of encyclopedias, sports almanacs, how-to manuals, library card catalogs, specialized dictionaries, and even computer databases. Its clearly organized, entertainingly written chapters show you how to look up information about the arts, religion, education, industry, technology, recreation, and many other topics.

*How to Look Things Up and Find Things Out* is a must for anyone who does research for any reason. It is a map to the world of information that no one — student, teacher, writer, or businessman — should be without."

I shouldn't offer this. I don't like to give away my secrets. But the truth is the better you are at using books to investigate the world around you, the better it is for the both of us. And I'm embarrassed to admit that I've learned more than a few tricks from this book. Consider it. 6x9 paperback 290 pages  
Cat. no. 588 \$9.95

# PRIMARY BATTERIES

*Forgotten Technology*

**PRIMARY BATTERIES**

by Henry S. Carhart

reprinted by Lindsay Publications

Here's a great little book that covers the characteristics, construction, performance, maintenance, and measurements of primary batteries — devices that turn chemicals into electricity. What you get is what I call "practical theory" — knowledge that will help you understand turn-of-the-century batteries that few people have ever seen and get the most from them. You don't construction how-to.

Chapters include introduction, simple voltaic cell, potential and electromotive force, closed circuit batteries, open circuit batteries, batteries without a depolarizer, standards of electromotive force, miscellaneous batteries, battery tests, grouping of cells, and thermal relations.

The chapters are actually broken into 118 sections such as experiments on the polarization of a simple cell, defects of the Daniell cell, the bichromate battery, the copper-

oxide battery, the closed Leclanche cell, the Smee cell, the Law battery, the Gassner dry battery, Lord Rayleigh's form of the Clark element, Minchin's seleno-aluminum cell, Jablockhoff's battery, test of a silver chloride cell, grouping dissimilar cells, application of the Bunsen cell, and much more.

This hard-to-find information is essential for understanding how unusual, early batteries, now long forgotten, work.

Great reference! Great illustrations! Impress your friends when you fire up your homemade regenerative receiver on a homemade battery! They'll think you're Tesla himself! Worth having. Order a copy! 5x7 paperback 208 pages  
Cat. no. 20536 \$8.95



# PROCEDURES IN EXPERIMENTAL PHYSICS

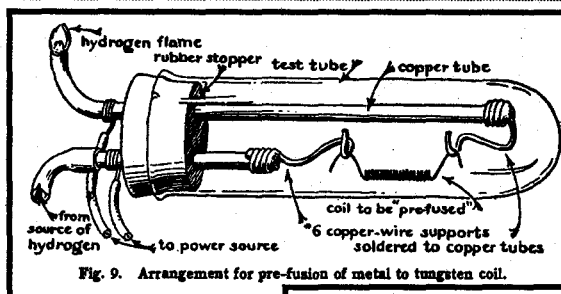


Fig. 9. Arrangement for pre-fusion of metal to tungsten coil.

## PROCEDURES IN EXPERIMENTAL PHYSICS

by John Stong

reprinted by  
Lindsay Publications

If you consider yourself an experimenter, an inventor, or a builder of unusual machines and equipment, you must have a copy of this fantastic classic text. No two ways about it.

You'll find wall-to-wall practical how-to and incredible illustrations on almost every one of the more than 600 pages. Chapters include: laboratory glass blowing, laboratory optical work, technique of high vacuum, coating of surfaces by evaporation and sputtering, the use of fused silica, electrometers and electroscopes, geiger counters, vacuum thermopiles and the measurement of radiant energy, optics, photoelectric cells and amplifiers, photography in the lab, heat and high temperature, notes on the materials of research, notes on the construction and design of instruments and apparatus, and molding and casting.

This is some incredible stuff! Learn how to blow glass and make aspirators, distillation condensers, and so on. Learn how to seal copper to glass so that you can imbed electrodes. Learn how to rough cut lens blanks from large plates of glass and then grind them into lenses on your homebuilt lens grinder. Learn how to make a parabolic telescope mirror using the standard techniques. Learn to make unusual equipment to test the finished mirror. Learn how to grind a Schmidt lens.

Build high vacuum roughing pumps, getters for creating the highest vacuums, and diffusion pumps using mercury and oil. See charcoal traps, kinetic vacuum systems, vacuum gauges of all types. Remember, all this comes with construction details.

Learn how to silver mirrors with a variety of methods including vacuum sputtering. You'll find extensive details on the evaporation technique for aluminum.

Fused quartz is valuable because unlike glass it can

## Wall-to-Wall How-to! Classic Text! Incredible Illustrations!

withstand extreme temperature changes without shattering. Learn how to build micromanipulators and all the rest of the equipment to produce tiny fibers that can be used for suspending the elements of an electrometer, for cross hairs in optical instruments, or for building a balance. The microbalance shown is supposed to be sensitive down to a billionth of a gram per division!

And there's so much more! Build a Compton adjustable quadrant electrometer, a Hoffman electrometer, and others useful for x-ray and cosmic ray work. Build a Geiger counter. You can build your own Geiger-Mueller tube if you master the high-vacuum technique taught earlier. Unfortunately, most of the electronics described is based on vacuum tubes of fifty years ago rather than on transistors.

Build vacuum thermopiles that measure infrared, visible light and ultra-violet so accurately that they can be used to calibrate photographic lightmeters and such. You've heard of carbon arc lights, but do you know how to build iron arc lights? Or low pressure mercury arc lights? And others? You can even build a machine to measure the wavelength of colored light.

You'll find details on hydrogen furnaces, crucibles, burners, electric arc furnaces, and even a lab setup for making artificial rubies and sapphires! And there's much more - even down to what we consider the "easy stuff" like using a lathe and sand casting.

This is a fantastic book loaded with construction secrets for unusual equipment that you should have. First published in 1938, this

baby went through a couple of dozen printings! It's a classic. It's incredible. You should have a copy for reference if nothing else. Highly recommended. Order a copy today.

5 1/2 x 8 1/2 sewn paperback 642 pages  
Cat. no. 4562  
\$24.95

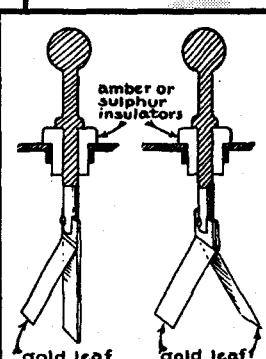
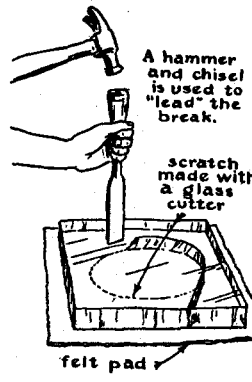


Fig. 3. Two types of gold-leaf electroscopes.

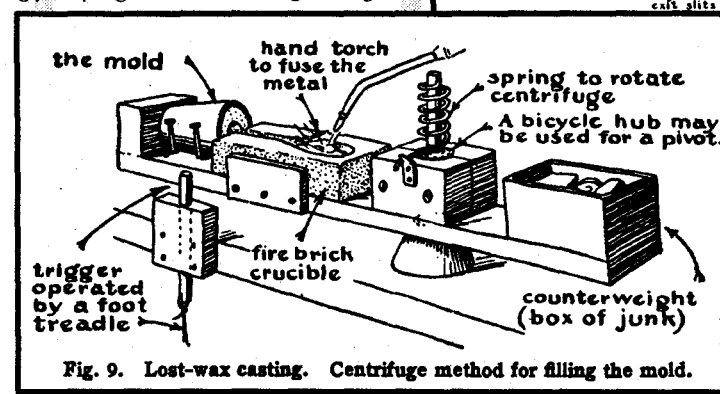
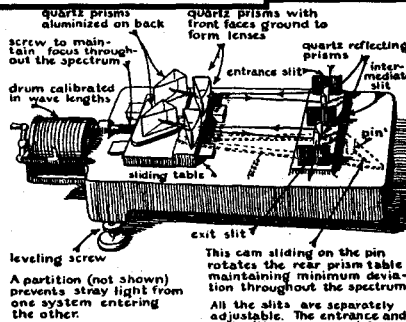
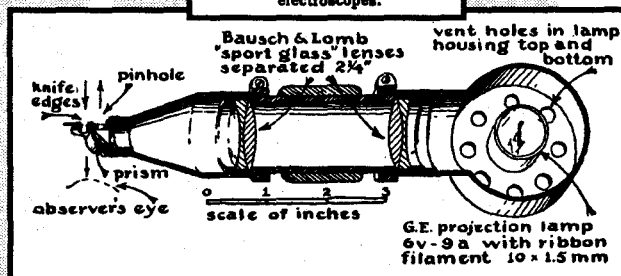
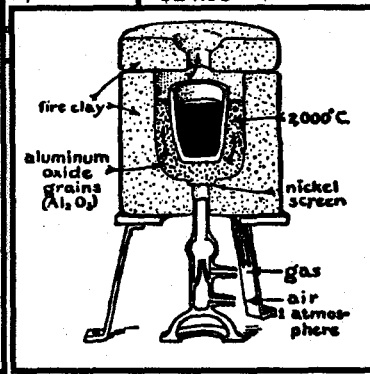


Fig. 9. Lost-wax casting. Centrifuge method for filling the mold.





## Ancient Radio Apparatus

Construction, Operation,  
& Restoration

### BUILD A 35' FREE STANDING TILT OVER ANTENNA TOWER

by David J. Gingery

Once you have your ham license you'll want to hoist a beam high above the house. When you see what towers cost, you'll want to build your own. Let master craftsman,

## Build Gingery's 35' Radio Tower!

expert-of-the-cheap Dave Gingery how he built a sturdy, reliable tower just a few years ago for less than \$100. Dave has a simple dipole on it. He says he hasn't calculated the wind loading but it should easily handle a tri-bander. If you're thinking about a huge cubi-

cal quad from days past, that might be pushing it since this tower has no guy wires to strangle you when you mow the grass.

He'll show you to build the jigs to bend up the bracing and align the members while you weld it up. Yes, you have to be able to weld, or know someone who can. Materials used include water pipe, rebar, conduit, a boat trailer winch and assorted bolts.

Build a tower and get your antenna in the air. Or use it to fly a jolly roger and scare your neighbors away. Or next time your mother-in-law starts mouthing off hoist her to the top

and let the birds roost on her (or worse)!

Typical Gingery quality. Detailed, proven how-to, loaded with all necessary drawings and photos. Not something you'll find every day. Get a copy! 8 1/2 x 11 booklet 24 pages Cat. no. 3012 \$8.95

## BUILD DAVE GINGERY'S COIL WINDING MACHINE

### BUILD A UNIVERSAL COIL WINDING MACHINE

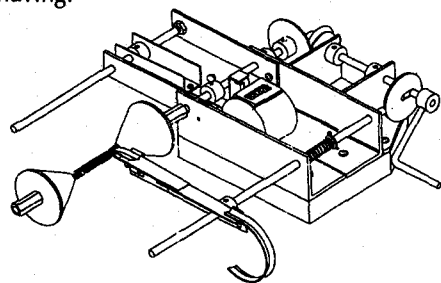
by David J. Gingery

Just a few years ago, experimenters could buy two or three simple hand-operated affordable coil winders. I haven't seen any of them advertised lately. You certainly can wind coils by hand, but if you're going to do any serious experimenting with old-time shortwave circuits, a coil winder is worth having.

holds your hand! Excellent publication. A serious experimenter should have a copy of this and the winder it describes. Order a copy. It's excellent. 8 1/2 x 11 booklet 24 pages

Cat. no. 386

\$8.95



Dave will show you how to build a coil winder from common, easily-obtained materials. Although it may look complex, it really is not. You'll find that it is easy to build. You don't need to be a mechanical genius, or need expensive tools. Yet this amazing little machine will professionally wind universal and honey-comb coils, single layer and multi-layer solenoids, close-wound and space wound coils, and even pi-spaced coils such as used for RF chokes and transformers.

This is a typical Gingery how-to book—loaded with illustrations, dimensions, and step-by-step text that is so detailed it almost

## 1937 Coil Data

### SHORTWAVE COIL DATA BOOK

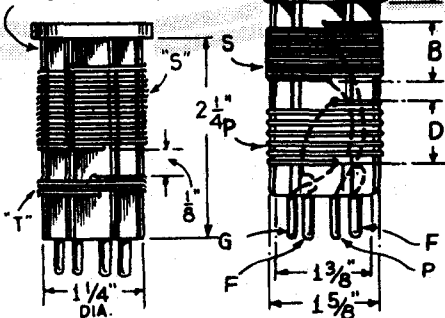
by Radio Publications

Coils! Coils! Coils! They're the heart and soul of shortwave radio receivers and transmitters. A properly wound low-loss coil can make the difference between having an average piece of gear or a hot performer. And it seems the simpler the receiver, the more important the coils.

Here in one jam-packed booklet from 1937 are hints, tips, charts to help the shortwave radio builder design and build the best coils possible. You get informative articles from Gernsback magazines such as

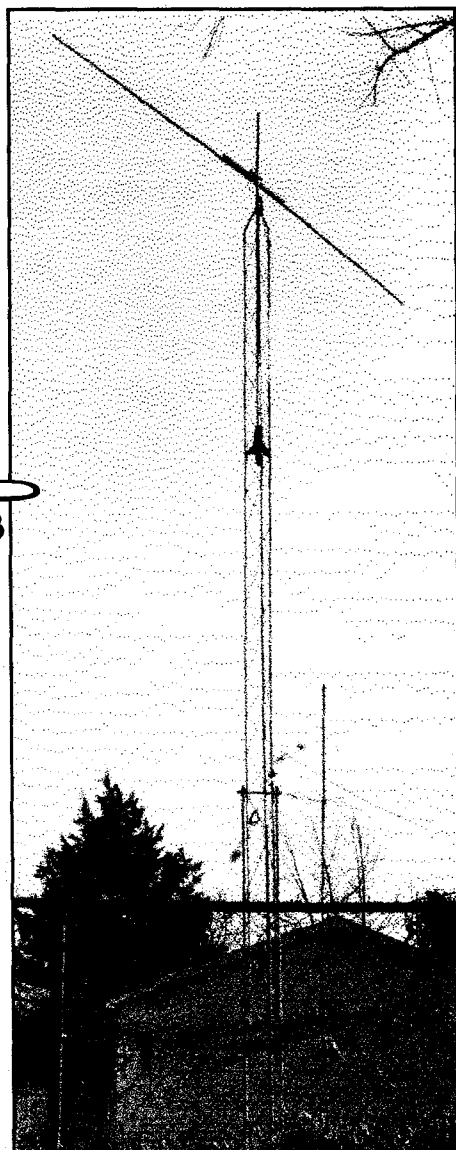
- Coil Data for TRF Receivers
- The One Tube Oscillodyne Coils
- The Mono-Coil
- 2 Winding Coils for 10-500 Meters
- Coils for a 3 Tube Band Spreader
- and many others

### RIBBED COIL FORM



You also get nine different circuit diagrams for the "Most Popular SW Tuning Circuits" and five "Transmitting Circuits employing the coils described".

This is highly specialized information on just one important topic essential to successful radio construction. It's only 16 pages but it's quite inexpensive and delivers. Get a copy! 8 1/2 x 11 booklet 16 pages Cat. no. 830 \$2.75





## Ancient Radio Apparatus

Construction, Operation,  
& Restoration

### OFFICIAL 1934 SHORT WAVE RADIO MANUAL

edited by Hugo Gernsback  
& H W Secor

new chapter by T. J. Lindsay

Build simple, high-performance old time shortwave radios! You can. All of the secrets are here: the circuit diagrams, parts layout, coil specifications, construction details, operation hints, and much more.

Back in the 20's and 30's the only low-cost way of listening in on the newly discovered and fascinating shortwave radio frequencies was to build a set. Shortwave construction magazines flourished, even during the depression.

This is a compilation of construction articles from "Short Wave Craft" magazine. It's wall-to-wall how-to.

**SECRETS OF OLD SETS!** At the rear of the book are circuit diagrams, photographs, and design secrets of all shortwave receivers being manufactured in 1934 including some of the most famous: SW-58, the SW-5 "Thrill Box", the deForest KR-1, the Hammurand "Comet Pro", and many more.

**BUILD SOLID-STATE SETS!** You'll find that all the circuits use tubes since transistors hadn't yet been invented. And you'll also

find that the original tubes listed are usually difficult to find today. Included is a

new chapter showing how you can use transistors to replace hard-to-find vacuum tubes. You'll even see the circuit that was lashed together on a table top one night using junk box parts, one of my wife's hair curlers and alligator clips. When I hooked it up to an antenna strung across the basement ceiling and attached a 9 volt battery, signals started

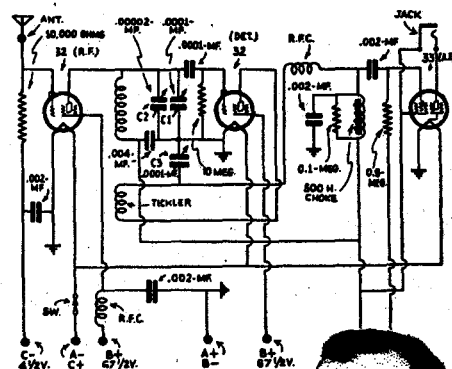
## Official 1934 SHORTWAVE RADIO MANUAL

*Incredible How-To,  
Reference, and a special new  
chapter on solid-state sets!*

popping in like crazy. In a couple of minutes I heard an urgent message from a ship's captain off Seattle asking for a navigator to help him through shallow water. Not bad, considering I live near Chicago!

**HOT PERFORMERS!** These small regenerative receivers are extremely simple, but do they ever perform! I've built dozens of them, and they never fail to amaze me! Even master machinist, Dave Gingery has built these sets.

This is the nuts for the experimenter, the



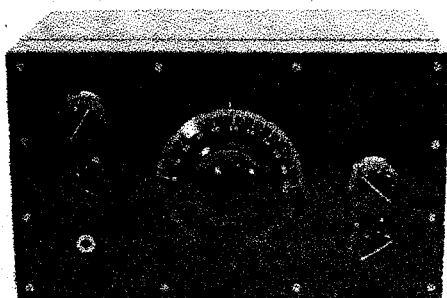
survivalist who is concerned about basic communication, shortwave listeners, ham radio operators who collect old receivers, and just about anyone interested in old-time radio.

Great book. Best old-time radio book I've ever seen. And I look at every one I can get my hands on. Consider it carefully. Even if you never build one of these radios, you'll get hours of enjoyable reading out of this book. Top rate. Order a copy.

8 1/2 x 11 paperback 260 pages

Cat. no. 4643

\$15.95



## Build Solid-State Regenerative Receivers!

Dear Mr. Lindsay:

A good friend of mine has sent me a copy of your re-done Short Wave Radio Manual of 1934, the year, incidentally, that I first received my amateur license. So it takes me back most pleasantly to the days of my youth. That I have enjoyed perusing it very much goes without saying, I believe.

It was also pleasant to read your commentary upon building regenerative receivers at the back of

the book. We agree perfectly upon the effectiveness of these devices. Indeed, it was the inception of this that first made practical, long-distance radio possible. A good, properly used regenerative receiver may develop a gain of 30 decibels or more, equal to that of three non-regenerative cascaded stages.

But, as you know, one always gets only what one pays for. Buy a fancy, store bought receiver and you pay for results with money. Build a "homebrew" regenerative job, and you pay for it in the effort of building and operating it with patience and care, two words that most people scarcely know any more...

It has been my experience that the good old vacuum tube still makes the most effective regenerative detector, particularly the RF pentode. Next best, in the solid state line is the junction FET, as you suggest. But it takes two of these to do the job of one good pentode tube. However, all the FETs need is a nine-volt battery, no power supply required, a real advantage as you say.

Through the years I've found that the "Throttle Capacitor" mode of regeneration control, along with a properly adjusted tickler coil (as upon page 56, 58, 62, 66 and 259 of your book) is by all odds the smoothest and most effective regeneration control method. For pentode tubes, of course, a

pot in the screen circuit is ok, too. But, in general, the capacitor is my favorite - never critical, noisy or "jumpy", I've found. I've also found that when a tube is used, the higher the gridleak resistor the better (my best job used a 20 megohm leak). But for FETs, one megohm seems about right. (Too low and the sensitivity is down. Too high and the thing gets "fussy.") I would disagree, but not argue with, your theory of audio feedback through the power source. I would feel that the inductive reactive effect of the audio transformer, or choke is the culprit. Pure resistance coupling does not develop "fringe howl," for instance. Also I find that with most FETs, a 1000 ohm source resistor is better than the 2700 ohm one that you suggest in the diagram at the top of page 247.

Building and using regenerative receivers continues to be a pleasurable experience for me. I have tried to get some young fellows of my acquaintance into this sort of activity with negligible success; they'd rather spend daddy's money upon fancy, store-bought gear. They do not realize how much honest education and real, challenging adventure they're depriving themselves of by that attitude. Too bad...

You are doing your part to keep the great self-education process alive and well. Keep it up!

C. F. "Rock" Rockey





## Ancient Radio Apparatus

Construction, Operation,  
& Restoration

### VACUUM TUBES IN WIRELESS COMMUNICATION

by Elmer E Bucher

In 1919 radio had proven itself in the just-ended First World War. Radio's future looked bright.

The author explained his purpose in writing this book:

"In preparing the text of this book, the author had two principal objects in view: (1) to provide the Government and commercial wireless operator with a brief and simple explanation of the functioning of the circuits of the vacuum tube, (2) to lay before the experimenter and the practical operator the numerous circuits employed from time to time in the laboratory and in commercial practice.

Outside of its obvious commercial value, the perfected vacuum

tube affords the experimenter a most fascinating field of research. This is well evidenced by the fact that a single bulb

## Vacuum Tubes in Wireless Communication

with associated tuning apparatus connected to a four wire aerial 200 feet in length permits wireless signals to be received over distances 2,500 to 4,000 miles in daylight, and up to 6,000 miles in darkness."

On the title page is another description that says it all.

"This volume shows over 140 different circuits for the practical use of Vacuum Tubes as Detectors, Radio or Audio Frequency Amplifiers, Regenerative Receivers, Beat Receivers, and Generators of Radio Frequency Currents.

The Two, Three and Four Element Oscillation Valves are described in detail together with the circuits used in daily practice. Cascade Amplifiers of the latest type for long distance reception are comprehensively treated. Up-to-date circuits for long distance receptions are comprehensively treated..."

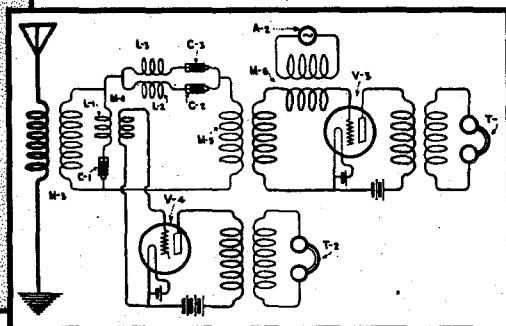
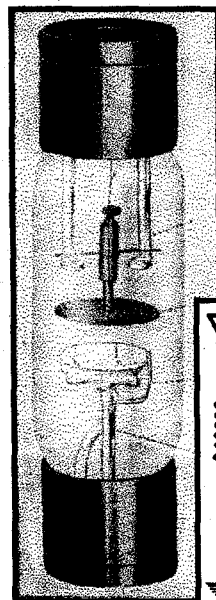
This almost all circuit diagrams, many being brand new to me. How about regenerative cascade systems, a modified Weagant Beat receiver, Espenschied's Duplex Wireless Telephone system, or circuits using unusual tubes such as the Dynatron, the Plidynatron, the Kenotron, or the Plotron? Back then, this book described the cutting of technology as radio began to move away from spark gap code transmission to continuous wave methods using tubes.

This is a great collection of very unusual radio history — something you don't find everyday. 'Course I know a lot of boneheads who would be just as happy if they NEVER found it any day. But don't you be one of them. Consider this carefully. Its unusual.

5 1/2 x 8 1/2 paperback 208 pages

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\$12.95



## THE HOW AND WHY OF RADIO APPARATUS

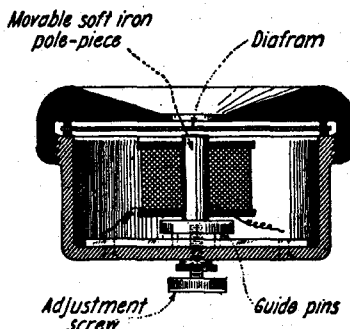
by H. W. Secor, E.E.

reprinted by Lindsay Publications

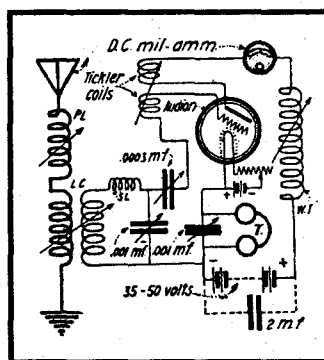
Back in 1922 when short-waves were the newest high tech frontier being explored, everybody and his brother was wanting to build a shortwave set and tune in on the fun. Magazines and books could tell you how to bolt together a set but rarely told you anything about why or how it worked. If you wanted to modify it or improve it, you would probably use a trial-and-error engineering approach. And that usually doesn't work very well.

Secor set out to explain to his readers how components worked individually and together, and without using heavy math to do so. This book provided the "practical theory" experimenters needed.

Chapters include: The Induction Coil, The Transformer, Radio Transmitting Condensers,



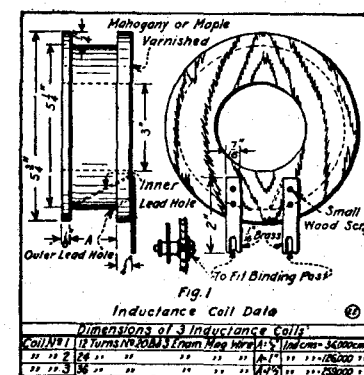
## The How and Why of Radio Apparatus



Spark Gaps, Radio Transmitting Inductances, Radio Receiving Tuners, Radio Receiving Condensers, Detectors, Telephone Receivers, Radio Amplifiers, How to Make and Use a Direct-Reading Wave Meter and Decimeter, Radio Antenna Construction, The Calculation and Measurement of Inductance.

This is great stuff for experimenters old and new. You won't find much in modern books on spark gaps and variometers. A lot of this is quaint reading. You may not want to duplicate the circuits, but you can in your imagination. Building the direct reading wave meter could be fun. And the calculation and measurement of inductance is interesting, too. Tesla coil builders might benefit from some of this info, since a Tesla coil is a primitive radio transmitter.

This is an unusual early radio book that compliments the books that are little more than



circuit diagrams. Here, you'll "crawl" inside the head of the old-time builders and learn how they saw the new field of electronics opening up. I like it. I think you will, too. Get a copy! 6x9 paperback 160 pages

Cat. no. 21133

\$8.95



## Ancient Radio Apparatus

Construction, Operation,  
& Restoration

# COMPLETE 1914 RADIO PARTS CATALOG!

Electro Importing Co

**The "Electro" Tesla Transformer**  
(Patent Applied For)

The greatest demand of our customers for an efficient Tesla Transformer... The Electro Tesla Transformer... No. 7000

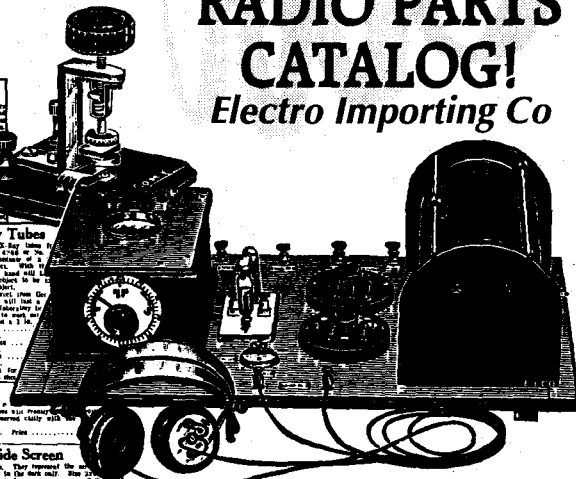
**The "Electro" X-Ray Tubes**

Barium-Platinum-Cyanide Screen

**Fluoroscopes**

**Tube Stands for X-Ray Tubes**

**The "Telimco" Experimental X-Ray Outfit**



1914 CATALOG  
ELECTRO IMPORTING CO

reprinted by Lindsay Publications

Discover the amazing world of radio as it existed in 1914 when you explore this edition of the Electro-Importing Co parts catalog. You'll find the peroxide of lead detector, the "Electro" Telegraph Key, the "Electro" Leyden Jar, and even the "Electro" 1/2 KW

Transformer coil that would enable you to build a 100 mile wireless coil. You'll find illustrations, text, even practical how-to tips on everything imaginable: electrolytic interrupter, kick-back preventer, precision coherer, polarized relay, vario selective coupler, "Interstate" wireless receiving outfit, "Telimco" wireless telegraph outfit no. 4, the Omni-graph No. 2777, "Bull-Dog" spark coil, fancy Geissler tubes, the experimental X-Ray outfit, X-ray tubes, electroplating outfit, Tesla transformer, and much, much more.

You get a small, well-illustrated, jam-packed catalog that features unusual equipment that is no longer manufactured and no longer used. Fun reading. Great reference for the collector, restorer, and builder. Heavily illustrated! Get a copy. 4 1/2 x 6 1/2 paperback 144 pages Cat. no. 20587 \$7.95

## ELECTRICAL GOODS AND RADIO APPARATUS - 1922

by Sears Roebuck and Co.

reprinted by Lindsay Publications

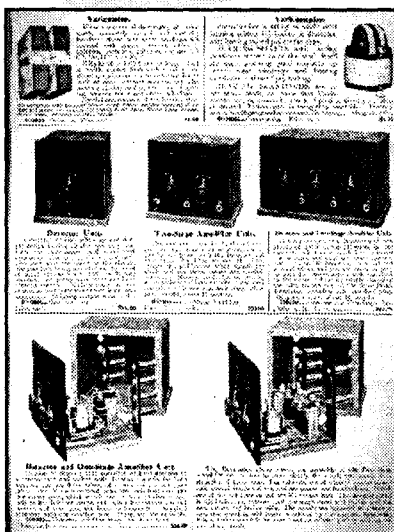
In 1922 you could buy radio components from a Sears catalog! It's true.

In the first 16 pages of their catalog you could choose from practical appliances such as powerful electric vacuum cleaners, medical "batteries", fans, toasters, and even electric wringer washers.

You'll find the last 44 pages offers radio equipment ranging from Navy telegraph keys and galena detectors to heavy-duty spark gaps and radiation ammeters. Back then you could buy UV-200 (and other) vacuum tubes, variable condensers, earphones, 10,000 volt transformers, rotary spark gaps, variometers, Bakelite panels, and everything you could want to build your dream radio station.

Relive those days with this heavily illustrated, fascinating reprint. Fun reading. Great reference. Order a copy! 8 1/2 x 11 paperback 60 pages Cat. no. 20994 \$7.95

## 1922 Sears & Roebuck!



## 1001 RADIO QUESTIONS AND ANSWERS - 1926

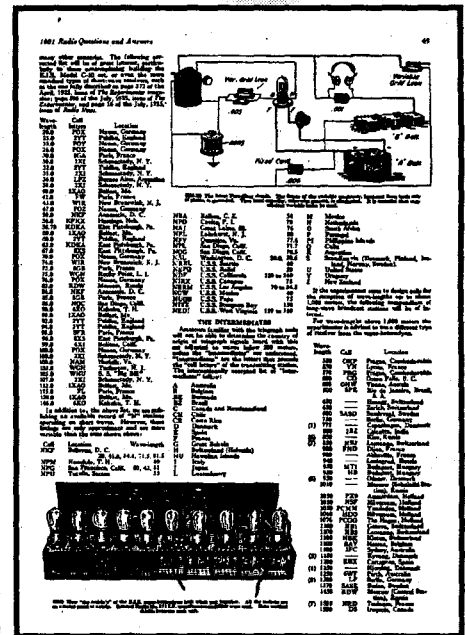
edited by Leon L. Adelman

reprinted by Lindsay Publications

In 1926 the best questions to the editors of Radio News Magazine and their answers were compiled into this enjoyable book. Chapters include: miscellaneous circuits, popular circuits, tube data, transmitting circuits, current supply, amplifiers, antennae, and miscellaneous apparatus.

You'll see circuits for adding RF stages to regenerative receivers, circuits to sharpen tuning, a 5-tube 2-dial TRF set, circuits for cascaded regeneration, and dozens of other ideas. You get discussions concerning the use of Litzendraht wire for coil winding, new fangled superheterodynes, wave-trap design, and the Universal Plio-6 receiver capable of handling everything from 35 to 3,500 meter wavelengths. And there's so much more.

## 1001 RADIO QUESTIONS & ANSWERS



You get page after page of radio diagrams, most of them related to receiving. And this is unusual stuff - the nitty-gritty details that you generally don't find in how-to books because they're so specific. Yet, these details often contain hints, tips, and secrets the old-timers acquired by experience and then took with them to their graves.

Fascinating! Easy-to-read! The original is on cheap disintegrating paper. A couple of pages actually have small holes (imagination will be required during reading). Get one for your reference library. Order a copy today! 8 1/2 x 11 paperback 96 pages Cat. no. 21001 \$8.95



## Ancient Radio Apparatus

Construction, Operation,  
& Restoration

POPULAR RADIO  
HANDBOOK NO. 1 -  
How to Build Your Radio Receiver  
edited by Banning & Cockaday  
reprinted by Lindsay Publications

Today we talk about high tech inventions like space shuttles, computerized virtual reality, and gene-splicing. In 1924 the craze was radio. And it was fed by the amazing discovery that short waves could carry messages around the world.

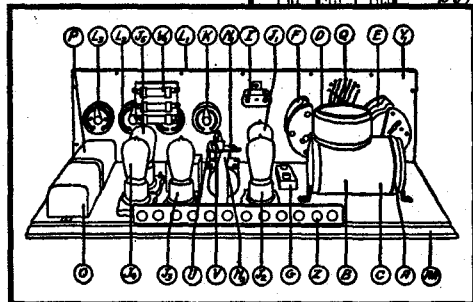
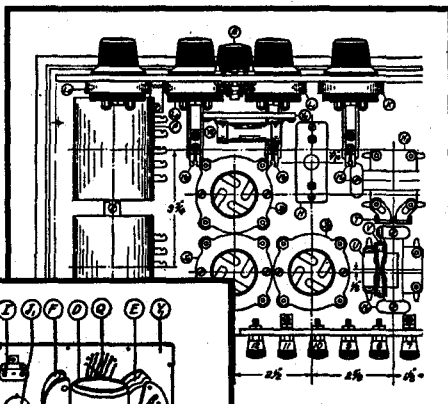
The best thing about radio back then was that just about anybody who could save enough money to buy a vacuum tube could build their own receiver and get in on the fun. (I don't know of anybody who has their own space shuttle...)

## How to Build Your Radio Receiver

Construction articles from 1924 POPULAR RADIO!

The people at Popular Radio published their magazine to cater to the exploding interest. What you get here are the best construction articles from that magazine.

Chapters include: how to read a radio diagram, how to put up an outdoor receiving antenna, how to build an efficient crystal receiver, how to build the Haynes DX receiver, how to build a two-stage audio-frequency amplifier, how to build the four-circuit tuner, how to build a tuned radio-frequency receiver, how to build the improved four-circuit

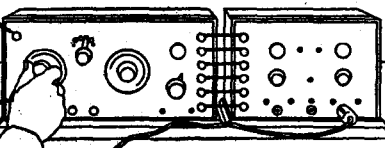


tuner, how to improve the three-tube four-circuit tuner, how to build the new regenerative super-heterodyne receiver,

and broadcasting stations in the U.S. of 50-watt power or more.

This is old time stuff with four-prong tubes, coupling controlled by moving the coils, bread-board layouts, and 45 volt "B" batteries. You get drilling layouts for the Bakelite panels, dimensions for the cabinets, wiring instructions and more. This is one of the best early practical how-to books I've seen

If you have radios to restore, or have old parts you'd love to lash up into a working set, then this is for you. For the rest of us it's fun reading. It's technological history! Early radio at its best. Get a copy. 8 1/2 x 11 paperback 104 pages  
Cat. no. 20951 \$8.95



# CRYSTAL SET HANDBOOK

strong enough and if proper filtering is carried out. The crystal set developing the power must filter out the music or voice to provide a steady DC supply for the transistor amplifier. The listening crystal set then simply does its normal job (tuning and selectivity), and supplies an audio signal to the amplifier which drives a speaker. Mr. Osborne reports that his local AM station was capable of providing 1 milliwatt (mw) of current into a 5000 ohm load (that's 5 milliwatts of power), sufficient to operate a simple transistor amplifier and speaker.

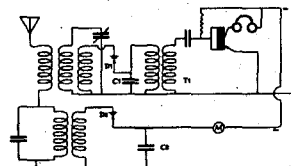
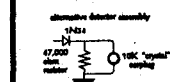
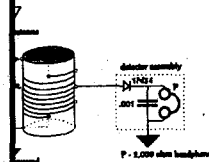


Figure 1-1: Self-Powered Receiver

In Figure 1-1, the bottom crystal set is the DC supply. Capacitor C2 needs to be 10  $\mu$ f or so to filter out modulation coming from the local AM station, and the antenna is tightly coupled. The corresponding detector capacitor in the 'listening' set is labeled C1; its value is the usual .001  $\mu$ f (1000 puff). Transformer T1 provides a match between the detector output and the low impedance transistor base. The antenna is loosely coupled, preserving selectivity.

assembly. Don't use a 1N914 silicon diode; it's too strong a signal from your radio station. If you use a 1N34, ask your parts store clerk for a diode; any of them will do nicely.



Crystal Set Plans

Solder one end of the detector assembly to the

## THE CRYSTAL SET HANDBOOK

by Philip Anderson

Volume 3 of the Xtal Set Society Newsletter has been reprinted in the first three chapters. Topics covered include the Tikker Detector, short-wave crystal sets, the simplest crystal set, circuit alternatives, vendors and more.

Starting with chapter four you get basic essential background information on coil inductance formulas, coil 'Q' and coil capacitance, detector loading, matching techniques for maximum earphone volume, and advanced matching. After a couple of wire tables and values, you get an extensive bibliography on crystal set books and magazine articles, some old and some relatively recent. You'll also learn how to join the Society, and you'll find out that the author has a PhD in engineering and is one of the founders of Kantronics.

With this book you'll learn how to build a crystal radio even if you've never done it. If you have built one, you'll want this book because it will show you how to maximize performance. Remember, the simpler the design, the more care that must go into each component if you're to get top rate performance.

Interesting. If you're a crystal radio nut, get a copy of this. You'll learn simple testing and design techniques that engineers use. Great accurate information. Consider it. 5 1/2 x 8 1/2 paperback 133 pages  
Cat. no. 3009 \$10.95

flows through the receiving telephone. These pulsations take place at such rapid rates that the diaphragm of the telephone is either held down continuously or repelled continuously resulting in no sound except at the beginning or end of the flow...To make undamped oscillations audible, we are

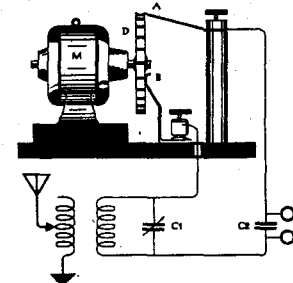


Figure 1-4: Tikker Receiver

compelled to break up the oscillations of either the transmitter or receiver into groups suitable for maximum response in the head telephone or to supply other means at the receiver to make them audible. The receivers at present in use (that work) are: (1) The Poulsen Tikker or chopper; (2) The heterodyne system; (3) The Goldschmidt Tone



## Ancient Radio Apparatus

Construction, Operation,  
& Restoration

## CRYSTAL SET SOCIETY

REPRINTS FROM  
JULY 91 TO MAY 92

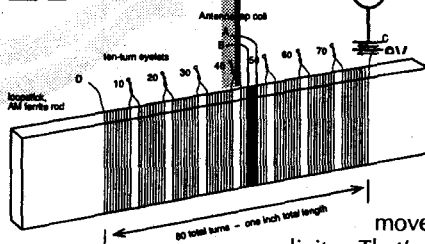
by Phil Anderson, W0XI

Radio can't get any simpler than crystal sets! Anyone can build one! But what do you do after you've wrapped an oatmeal box with wire? Here's your answer.

In July 1991 Phil Anderson from Lawrence, Kansas launched "The XTAL Set Society". You should have signed up. But you still can. And! You can find out what you missed by ordering a copy of this reprint of his newsletters for the first year. If you're into crystal sets, you'll find this interesting reading.

You get articles on building a basic field strength meter, a shortwave crystal set, "Why Did Those 1920s Crystal Sets Work Anyway?", a bare bones crystal set, an FM crystal set, a five part compression-capacitor crystal set (with part sources), a list of early articles on crystal sets, a toroidal crystal set, matching your antenna to your set for maximum signal reception, detector analysis, a 20 part crystal set, and other bits and pieces.

Yes, you'll find info on joining the society. Crystal sets are fascinating because of the



challenge of getting more performance out of less hardware - a move from complexity to simplicity. That's a refreshing change! I think you'll find this quite interesting. Get a copy! 8 1/2 x 11 plastic spiral binding about 36 pages

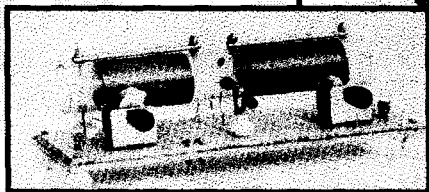
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**More! Volume 2!**

XTAL SET SOCIETY VOL 2  
by Phil Anderson W0XI

More interesting articles from July 92 to May 93 newsletters. Articles include: lead pencil detector, minimum detectable signal, detector biasing for improved sensitivity, double tuned circuits, universal crystal set, FM crystal sets, the electrolytic detector, the coherer revisited, Miller '595' Tuner revisited, and a galena detector from Italy, and more. Good reading. 8 1/2 x 11 plastic spiral binding 39 pages

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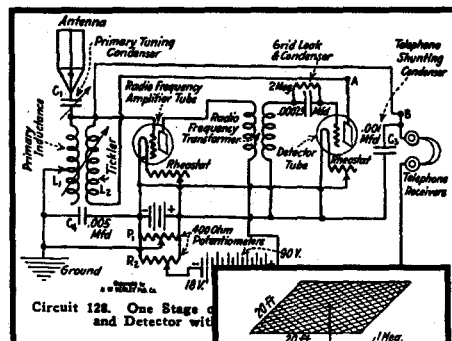
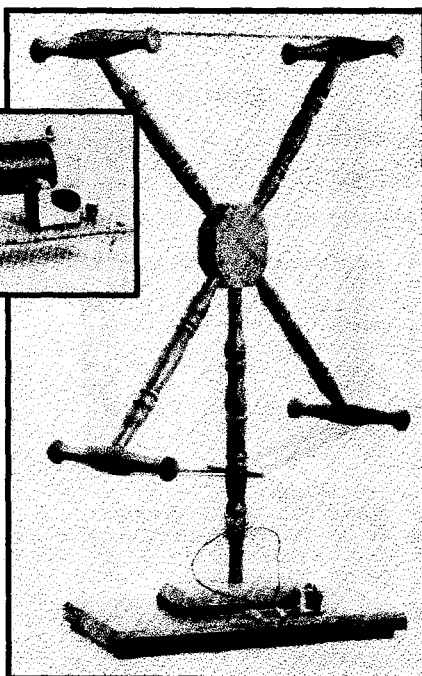
## RADIOS THAT WORK FOR FREE!



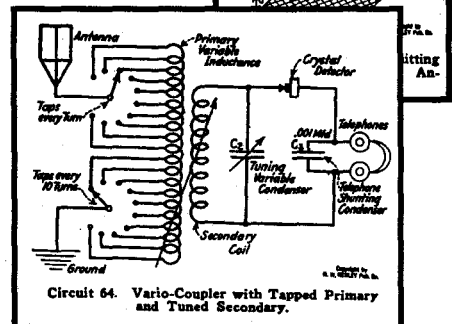
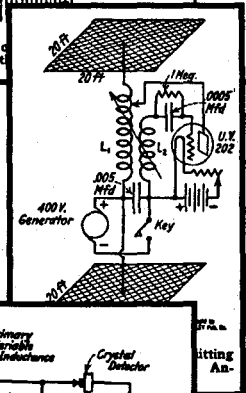
RADIOS THAT WORK FOR FREE  
by K.E. Edwards

Build yourself a crystal set! You'll be shown everything you need to know - from materials to tools to techniques. Edwards will show you how to build "hot-rod" crystal sets with fancy features that can outperform the old oatmeal box versions, but are still simple. If you've never built anything electronic at any time but would like to try, this is a great place to start. This book has become a classic in its field, and it gives me a good feeling. I think you'll like it, too. 5 1/2 x 8 1/2 paperback 138 pages — well illustrated

Cat. No. 314 \$9.95



Crystal sets, regeneratives, heterodynes, transmitters, more!



HENLEY'S 222  
RADIO CIRCUIT DESIGNS  
by Anderson, Mills, & Lewis

Wow! You get loads of circuits on all kinds of 1924 radio equipment. For instance, chapter six presents 25 different schematics for the basic crystal set using every conceivable type of loading and tuning arrangement.

Chapter seven launches the reader into vacuum tube detectors some with even more incredible tuning arrangements. After chap-

## 222 Great Radio Circuits!

ter eight on audio amplifiers comes chapter nine on miscellaneous circuits which include ultra-audio receiver, Reinartz tuner with RF, detection and audio, one-tube reflex with crystal detector, three-tube reflex with RF transformers, inverse reflex, CW receiver with BFO, three-tube neutrodyne, counter EMF circuits, Cockaday receiver, Bishop super-regenerative receiver, many others. The final section of circuit diagrams reveals designs for spark, CW, modulated CW and AM transmitters.

Relive the days of radio when circuits were simple and components were hot and heavy. Absolutely great circuit book! Great fun. Order a copy. 5 1/2 x 8 1/2 paperback 271 pages

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## Ancient Radio Apparatus

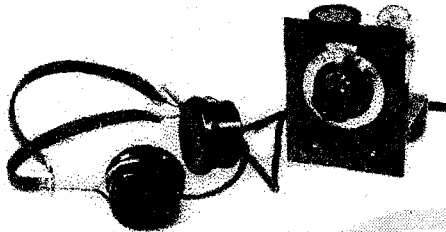
Construction, Operation,  
& Restoration

**RADIO FOR THE MILLIONS**  
by Popular Science Monthly  
reprinted by Lindsay Publications

From the pages of World War  
II vintage issues of Popular Sci-

ence Magazine came this reprint of well illustrated electronics articles on everything from phonographs and shortwave radios to cabinet design and radio servicing.

This is another of those jam-packed project books that are so much fun to read. By careful scrounging and trading you can

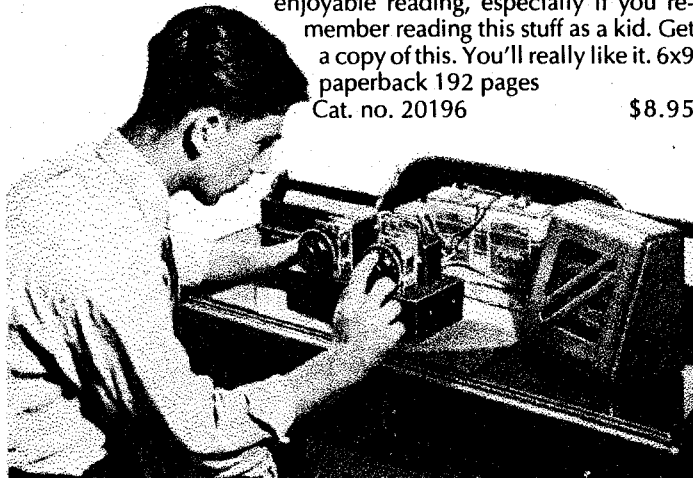


## Radio for the Millions

still get many of the parts and relive the early days of electronics before transistors and integrated circuits.

Every one of the dozens of articles is illustrated with sharp photographs, schematic diagrams, and parts lists. Some of it seems really primitive and amusing. Other projects almost demand that they be built!

Great stuff from the days before miniature vacuum tubes. Endless enjoyable reading, especially if you remember reading this stuff as a kid. Get a copy of this. You'll really like it. 6x9 paperback 192 pages  
Cat. no. 20196 \$8.95



## PARTIAL CONTENTS

One-Control Beginner's Radio; Get Started in Radio; Three-Tube TRF Receiver; One-Tube Loudspeaker Set; Four-Tube Speaker Receiver; Four Dollars Builds This Set; More Power for Your Two-Tube Radio; Home-made "Audio" Telegraph; Three-Tube Phonograph Receiver; Four-Tube TRF Receiver; Two-Tube Set Gets Foreign Stations; Two-Way Radio Station; Build an FM Receiver for \$22; A Tuner for Any Broadcast Set; World's Smallest PA Units; Floor-Lamp Radio; Practice Code Sender and Receiver; Pocket Receiver for Sports; Tiny Portable Operates Anywhere; Low-Cost Power Supply; Three-Tube Superhet; Compact All-Wave Set; Two-Tube AC-DC Receiver; Portable Radio-Phonograph; One-Tube Shortwave Set; All-Wave Bands on Two Tubes; Europe on One Tube; Bicycle Radio; "B" Supply for Portables; Priority Receiver Uses New Tuning; Compact Rectifier Unit; Midget Broadcast Set; Week-Enders' Radio; Midget AC-DC Receiver; Book-End Radio for Your Den; One-Tube All-Electric Set; Superhet for Beginners; Pocket-Size Radio Tester; "Wireless" Radio Phonograph; Low-Cost Home Recorder; Tom Thumb Radio; Suitcase Phonograph; Two-Tube Portable; and much more!



## RADIO BUILDER'S MANUAL

### Plugs Into LIGHT SOCKET

The new 6C6 tube used in this set actually does the work of three ordinary radio tubes, picking up the radio frequency signals, detecting them, then furnishing the audio frequencies for the headphones.

Naturally, regeneration is used to make the set as sensitive and selective as possible. A potentiometer shunted across the tickler winding of the plug-in coil serves as regeneration control.

The Glens Universal A.C.-D.C. circuit permits this set to be used interchangeably on alternating or direct current. The filaments of the two tubes are connected in series with a 350 ohm voltage limiting resistor. In case a pilot light is desired for the tuning dial, this is connected in series with the tube filaments and shunted by a 50 ohm wire-wound resistor. The voltage limiting resistor should then be set at 350 ohms.

(Continued on page 120)



Diagram of the plug-in coil and its connection to the potentiometer.



Diagram of the plug-in coil and its connection to the potentiometer.

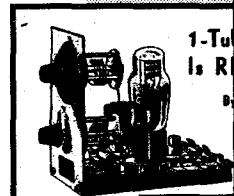


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### RADIO BUILDER'S MANUAL

by Modern Mechanix  
reprinted by Lindsay Publications

"Complete plans for all-wave receivers, amateur transmitters, police call adapters, crystal sets, automobile radio, portable receivers, as well as hundreds of other radio plans, stunts, and trouble-hunting kinks."

This 1935 paperback provided builders with a convenient collection of the best how-to articles from back issues of Modern Mechanix magazine. You get dozens and dozens of plans and odds and ends such as Wheatstone bridge for test bench, smallest broadcasting station, build selenium electric eye, 1-tube shortwave marvel, build a heavy duty power supply, rejuvenating

discarded dry cells, 3-tube tool box portable, cigar box receiver, auto aerials for 5-meter transceiver, smallest all-electric all-wave set, and on and on.

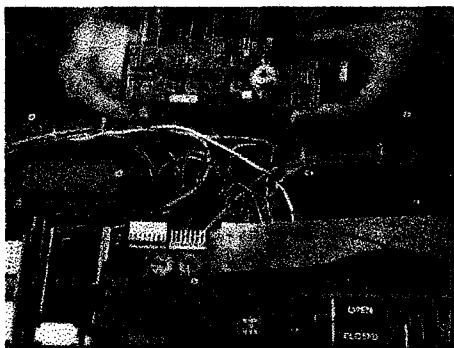
Sure it's all vacuum tube technology. And the police call adapters, obviously, won't receive anything anymore. But this is still fun stuff to read. The wall-to-wall illustrations will keep you occupied for hours. And if you really want to build samples of this old time gear, you'll have lots of fun doing it.

Get a copy and start digging into articles entitled "Powerful Crystal Set Brings in Distance," "This Electromagnet Does Mystifying Stunts," and "Powerful 5-Meter Radiophone Uses Broadcast Set Parts." Fun reading. Order a copy today. 7x10 paperback 130 pages

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# FIX YOUR COMPUTER!



## SERVICING PC-BASED EQUIPMENT

by Don Doerr

Here's a great book to help you service PC computers. The author wrote this in attempt to answer the most commonly asked questions from service technicians. I think he did a good job.

You get detailed flow charts to locate a problem. You can do your own repairs are a fraction of the cost of having it done. And if you DO choose to have someone else do the repair, you'll be able to ask intelligent questions. You'll be able to protect and recover your data. And much more.

If you take your PC to a dealer with a bad floppy drive, chances are they will replace it with a new one. Yet the author will tell you "floppy drive alignment is one of the easiest and most profitable areas of repair on PCs. Anyone who tells you that floppy drives are not worth repairing is either ignorant of how easily they can be repaired or is trying to ensure job security..." In other words, you can fix your own. Maybe you can make money doing it for others.

You get charts, diagrams, explanations of how components work, what the terms mean, pin configurations for common CPU chips, buses, ROM BIOS, error codes, and much more.

This is not for raw beginners, but you don't need to be an expert either. This can move you beyond the beginner stage. I just built and configured a high end 486 machine running UNIX, and I can tell you that this is one of the better books on hardware I've seen. I'll guarantee it won't answer every question (no book can), but this is worth the money.

Used PC's are cheap. Buy one and refurbish it. Maybe you can get started in repair. For me, the cost of the book is nickel-and-dime compared to the thousands I've got tied up in hardware that fills your order. Consider it carefully. 7x9 paperback 354 pages  
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# How to Unscramble Video!

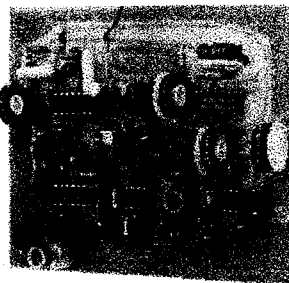
## VIDEO SCRAMBLING & DESCRAMBLING FOR SATELLITE & CABLE TV

by Graf & Sheets

If you have purchased or plan to purchase a satellite dish to capture signals coming from the many Earth-orbiting satellites, this book is for you.

You get:

- An understanding of encoding/decoding systems
- The theory and techniques of video encryption and decryption
- An overview of the rules and regulations governing the availability and use of satellite signals, antennas, and programming materials
- Schematics and details for several encoder and decoder projects.



Originally published in 1987, this book provides detailed information on everything from simple cable encryption systems to commercial satellite systems such as VideoCipher II™, the B-Mac System, and even the Data Encryption standard.

Although the authors are quick to point out that the information is not be misused in theft of signal, they have provided a wealth of schematics, printed circuit board layouts, IC chip specs, patent reprints, list of satellites and the scrambling systems they use and much more. This is a quality master reference that any video/satellite fanatic will find useful. Order a copy today! 8 1/2 x 11 paperback 246 pages  
Cat. no. 370 \$24.95

# Pirate Radio!

## THE COMPLETE MANUAL OF PIRATE RADIO

by Zeke Teflon

If you want to go underground and run your own pirate radio station, this booklet will tell you how to go about it. Chapters include preliminary considerations, getting away with it, to buy or build, the studio, transmitters, antennas, mobile operation, finding parts, test equipment, safety measures, and technical references.

You get schematics and parts lists for building a one-watt and a five-watt FM transmitter. You get practical details on antennas and coax, and lots more.

Pirate radio doesn't make a lot of sense to me. If you have to keep changing your frequency so that the FCC doesn't find you, how are your listeners going to find you? And without advertisers, who is going to pay for all this?

I've always thought about building a small FM transmitter to be used unlicensed for a short time during disaster relief after tornados or hurricanes, for example, when local radio stations might be off the air. Take the battery operated transmitter to the highest site in town and you could be on the air broadcasting vital information. That makes sense.

If you want to try to outfox the FCC with pirate radio, I guess you can try. It shouldn't be too hard. They're understaffed. But if you cause interference with my stereo equipment or computer, I'll come over and burn your house down. You've been warned.

Unusual. I can't believe this booklet will be in print very long. If you want one, you had better order one in the near future.

5 1/2 x 8 1/2 booklet 48 pages

Cat. no. 3011

\$5.00

The Complete Manual of

# PIRATE RADIO



By

**ZEKE TEFLON**

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We'll be glad to take your phone order, but when you call have your list of books written down and your charge card ready.

# Great Science Fair Projects!

## 100 AMAZING MAKE-IT-YOURSELF SCIENCE FAIR PROJECTS

by Glen Vecchione

"Get ready to amaze science-fair judges, your teachers, and your classmates with these imaginative projects, light waves to living creatures, and chemistry to the cosmos, demonstrated properties and effects from all fields of science.

- Grow your own colorful crystals.
- Create a moon craterscape and a Martianscape.
- Build a telescope that really works.
- See how much pollution is in the air you breathe.
- Make a 3-D stereoscopic viewer that seems to bring drawings and pictures to life.
- Find out why boats float.
- Light a lamp with homemade wet and dry batteries.
- Play a musical instrument made from ordinary, water-filled wineglasses.
- Take photographs with an easy-to-make pinhole camera.
- And 91 other exciting experiments."

These are great science fair projects. Build an electroscope, electromagnetic crane, solar cell, wind turbine, polarized light box, bottle & pipe trombone, parabolic microphone, a seismograph, and more.

You don't need to enter a competition to build this stuff. Just last weekend I was out shooting 8x10 panoramic photographs with a cardboard pin-hole camera. And the gum-bichromate prints I made from the negatives are better than the photos most people make with their expen-

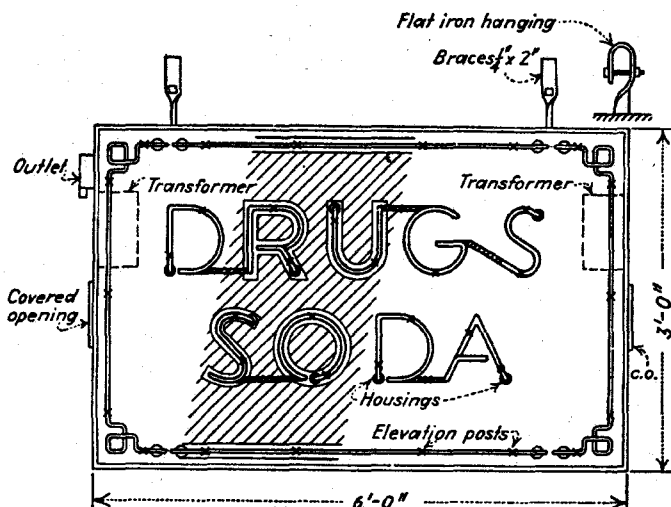
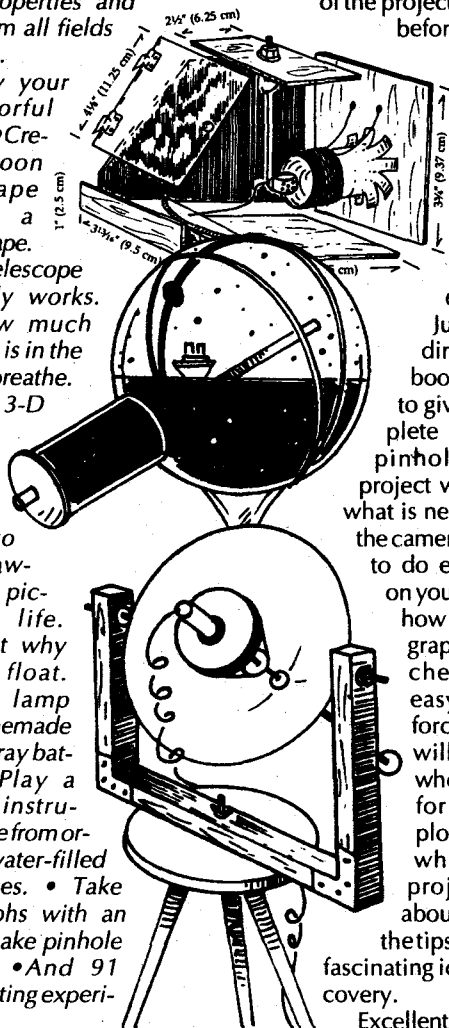
sive 35mm cameras. And I can shove a stereoscope in your face and take you on a tour of Chicago as it existed before the great fire of 1871! It's almost like magic. If you haven't tried at least some of the projects in this book before, you must.

Each project is accompanied by formative drawings. You'll be shown what the project entails. But! Just following directions in this book isn't going to give you a complete project. The pinhole camera project will show you what is needed to build the camera. You'll have to do extra research on your own to learn how to use photographic paper and chemicals. It's easy. But being forced to do that will open up a whole new world for you to explore. And that's what these projects are all about. They're just the tips of enormous, fascinating icebergs of discovery.

Excellent book. Anyone who thinks of himself as an experimenter or inventor MUST be familiar with these projects. Get a copy of this now. Don't wait until the day before science fair. 'Cause when you call crying to tell us you need the book Next Day Air and we've run out, we will sit here and laugh at you. Don't procrastinate. Order one way before the science fair. Order one just for fun. Good book. I'm going to hang onto mine for dear life. 7x10 hardcover 224 pages

Cat. no. 774

\$17.95



## NEON SIGNS

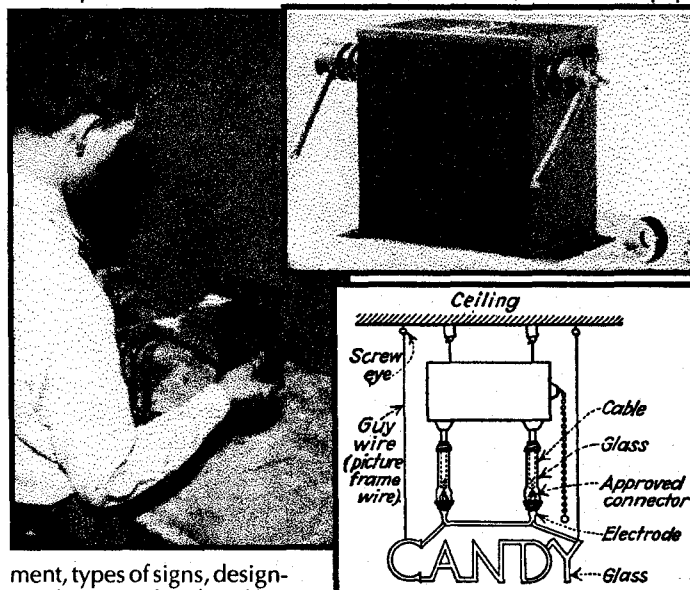
**Great How-To on Glass  
Blowing, Vacuum Systems, High  
Voltage and more from 1935!**

NEON SIGNS  
by Miller & Fink  
reprinted by Lindsay Publications

Sure. Equipment, techniques, and sign design have changed since this book first appeared in 1935, but not all that much.

Even if you're not interested in making neon signs, you'll find loads of useful information on rare gases, glass blowing, and vacuum systems that could be useful in experimental physics, high voltage, or even in building your own experimental vacuum tubes!

Chapters include the luminous tube, materials, electrical equip-

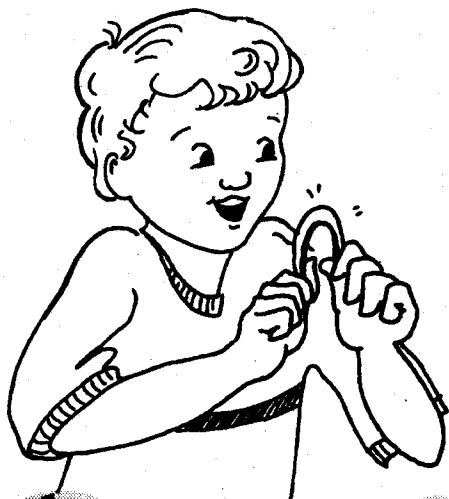


ment, types of signs, designing the sign, glass bending, pumping systems, bombarding, filling, testing, aging, installation equipment, special applications, tricks of the trade and more!

This is a quality straight-to-the-point book loaded with diagrams and photographs that you won't find just anywhere. It might be fun to make bizarre neon signs, repair "antique" signs, or just get into the trade. But even if that's not your goal, you'll find loads of unusual, interesting information. Consider this carefully. It certainly is NOT run of the mill. Order a copy. 5 1/2 x 8 1/2 paperback 288 pages

Cat. no. 20340

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## Slime & Bones!

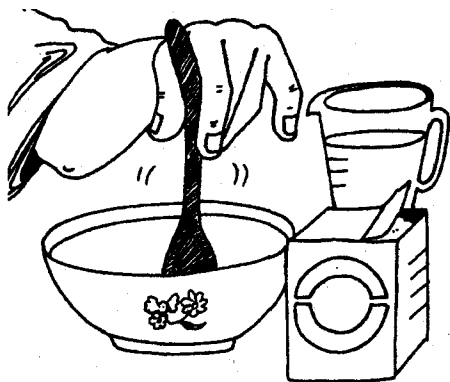
(Lindsay's favorite cookbook...)

**HOMEMADE SLIME AND RUBBER BONES**  
by William Wellnitz PhD

Here it is at last! Lindsay's favorite cookbook. No wonder so many of my girl friends have gone to their graves early...

Actually, this is a book of simple science experiments and projects aimed at the kindergarten through fifth grade crowd. And that includes you, doesn't it? You can make slime, grow crystal gardens, push a straw through a potato, make rock candy, create floppy bones, make a pencil "bend", produce a batch of invisible ink, make eggs that float or bounce, and lots more.

Try some of these standard tricks and then show them to your kids or grandkids. They'll think you're the smartest, most entertaining person alive. Hell! Show 'em to your braindead neighbor. He'll be equally impressed!



All you'll need are common household items. Each project usually takes less than 30 minutes.

Great entertainment for kids. The author is a professor of biology and wrote this book for teachers and parents. And for kids like me. Consider getting one. 7 1/2 x 9 paperback 116 pages

Cat. no. 773

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# Fifty-Five Wild Projects!

*Including...*

- **Jacob's Ladder**
- **Plasma Sphere**
- **Induction Coil**
- **Van de Graaff generator**
- **Tesla Coil**
- **Kirlian Camera**
- **Superconductor Disc**
- **See-in-the-Dark Viewer**
- **Robots**
- **much more!**

**GADGETEER'S GOLDMINE!**

by Gordon McComb

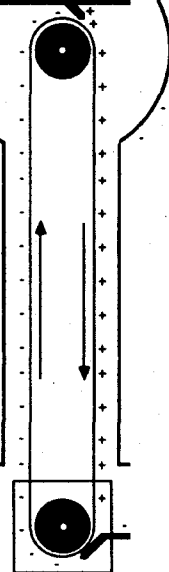
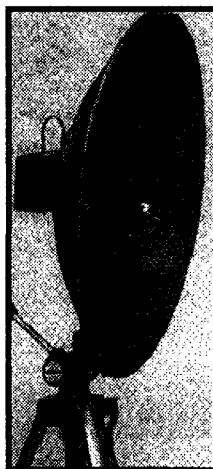
Here, in a single book, are 55 off-the-wall devices you can build.

You get a Jacob's ladder, plasma sphere generator, induction coil, Van de Graaff generator, Tesla coil, Kirlian camera, piezo film speaker and amp, He-Ne laser pistol, variable-rate strobe light, radiation detector, universal receiver, superconductor disc, see-in-the-dark viewer, shape-memory alloy, espionage devices, robots, and more!

And this is good stuff! — plenty of detail: illustrations, diagrams, how-to text. The list of suppliers is quite impressive, too. This is a book every unorthodox experimenter should have in his library and never loan. Get one! 7 1/2 x 9 paperback 406 pages

Cat. no. 383

\$19.95



## HOW TO BUILD A SOLAR CELL THAT REALLY WORKS

by Walt Noon

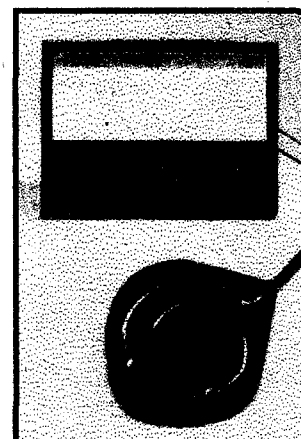
Yes! You CAN build a solar cell that converts sunshine into electricity. And it's really quite easy.

Modern high efficiency solar cells based on silicon crystals are difficult and dangerous to manufacture. You would need exceptionally expensive equipment just to perform the most basic experiments. But fortunately there is another method.

Walt Noon will show you how to quickly and inexpensively build a copper oxide photo cell. Admittedly, its overall efficiency doesn't come close to modern silicon cells, but neither does the cost. You can crank out cells for pennies. Connect many cells in parallel and

series, and you can generate surprising amounts of power.

The process requires only simple tools. The chemicals, like all chemicals, can be dangerous if mis-handled, but the worst is probably nitric acid which is used to thoroughly clean the copper.



Build a

## SOLAR CELL that really works!

He'll show you to make a working cell, test it, troubleshoot it if necessary, and even give you ideas on an experimental painted cell that he's working on. In addition, he'll give you schematics of test circuits, sample applications, and interesting projects that he's tried. You'll also get names and addresses of suppliers.

That author is not a professional, but he has safely built and used these solar cells, and he's willing to show you how its done. You get a 24 page booklet with many drawings, schematics and photographs that describes the relatively simple process in detail.

Build solar cells! Perhaps you can make some improvement in the process that will improve efficiency. Build electronic equipment. Charge batteries. Build a great science fair project. No matter what your objective, you'll find this to be a fascinating project worth trying. Rare information! Order a copy of this inexpensive booklet today.

5 1/2 x 8 1/2 booklet 22 page

Cat. no. 819

\$4.95



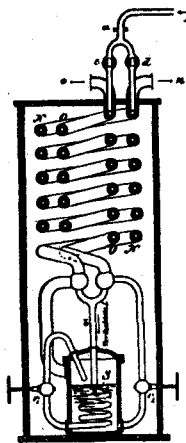
# GAS INTO LIQUID!

## LIQUID AIR

by T. O'Connor Sloane

reprinted by Lindsay Publications Inc

This fascinating 1899 book is about the unusual machines that take the invisible air around us, cool it, and turn it into a liquid.



You'll discover interesting historical details about early thermometers, how they were built, and how they worked. You'll review the lives, work, and methods of early investigators including Faraday, Natterer, Colladon, Pictet, Cailletet, Olszewski, Dear, Tripler, and of course, Linde. Explore the Joule-Thomson effect, and examine Hampson's apparatus. You'll try your hand at liquid air experiments, and in the last chapter see what 1899 experimenters thought the applications of liquid air should be.

This is not really a how-to cookbook for machines. It is a 17 chapter exploration of early investigators' ideas and their methods. An avid experimenter will find a wealth of detailed data to digest. The important machines and details about them are here in text and diagrams. You will find more enjoyable and useful information on liquid air in this single book than anywhere else that I

know of. It might just provide the missing link you need to begin experimenting with very low temperatures.

An unusual book on an unusual topic. High quality. Fascinating topic. Definitely worth having. Get a copy for your reference library. You'll like it. 5 1/2 x 8 1/2 paperback 365 pages

Cat. no. 20021

\$11.95

## TEMPERATURES - VERY LOW & VERY HIGH

### TEMPERATURES

### VERY LOW AND VERY HIGH

by Mark W. Zemansky

For years now my favorite college physics text has been the one by Sears & Zemansky. I discovered it in high school when I wanted to build a gas liquefaction machine. Now I discover Doc Zemansky has done a whole book on the concept of temperature. Neat!

"This concise study of temperature and its extremes is designed to provide physics students, laymen and the general reader a greater understanding into the total meaning of 'temperature' as a concept....

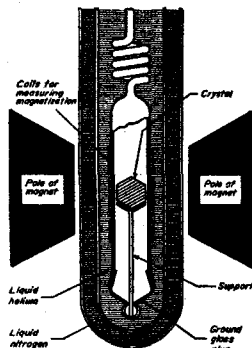
How are extremes of temperature measured? How are such extremes of temperature produced? What is the international temperature scale? Also covered: isothermic and adiabatic processes, The Third Law of Thermodynamics, Fusion reactions, Planck's Radiation Law, Energy and entropy, Thermodynamics and negative temperature.

The initial chapters of this volume deal with temperature as it exists in macroscopic physics. The story behind the production and measurement of temperature near absolute zero (-450.67 F) is discussed in the succeeding chapters followed by a review of the production and measurement in the fifty million degree range. And finally, the last chapter goes beyond infinity into the realm of negative temperatures."

Think about it! Build yourself a 50,000 degree plasma torch! What couldn't you cut up with that? Learn how very low and very high temperatures are achieved. As for negative temperature, I haven't gotten to that chapter yet. Inexpensive good reading. Unusual. By someone who knows. 5 1/2 x 8 1/2 paperback 144 pages

Cat. no. 590

\$4.95



## BUILDING SCIENTIFIC APPARATUS

### A Practical Guide to Design and Construction

by Moore, Davis, Coplan & Greer

The ultimate equipment book is Procedures in Experimental Physics offered elsewhere in this catalog. This book is the modern equivalent. I don't think this volume in any way surpasses Procedures but it is the closest thing I've seen yet. And it's about equipment built with modern materials.

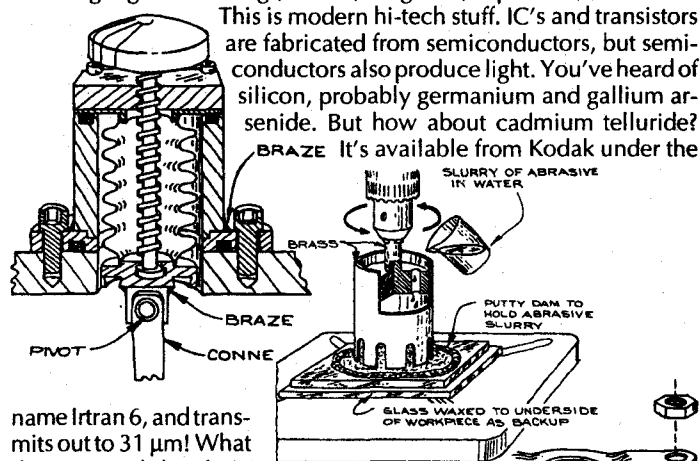
Chapters include: mechanical design, working with glass, vacuum techniques, optics, charged-particle optics, electronics, measurement and control of temperature. You also get references and a list of manufacturers and suppliers.

## BUILD SCIENTIFIC APPARATUS!

You'll learn about metals, alloys and their use in fabrication. You'll learn about bearings, working glass tubing, grinding and drilling glass, vacuum gauges, mechanical vacuum pumps, cryopumps, vacuum system design, cleaning optical components, features of laser design, spectrometers, Fabry-Perot interferometers, photovoltaic detectors, electron gun design, fringing-field correction, charged-particle detection, designing and building electronic equipment and much more.

You get great drawings, charts, diagrams, equations, and more.

This is modern hi-tech stuff. IC's and transistors are fabricated from semiconductors, but semiconductors also produce light. You've heard of silicon, probably germanium and gallium arsenide. But how about cadmium telluride? It's available from Kodak under the



name Itran 6, and transmits out to 31  $\mu$ m! What do you need that for? I

don't know. But neither will you unless you know this stuff is available. Then your imagination can dream up ingenious new uses.

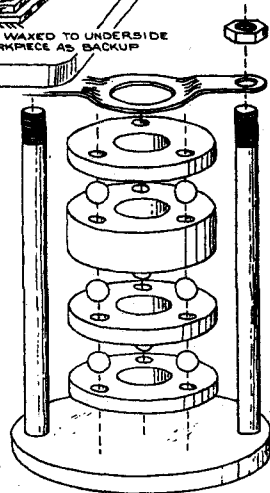
You could be the first in your neighborhood to build a duoplasmatron ion source or a Mach-Zehnder interferometer. You could even put a bellows-sealed, wobble-drive, rotary-motion feedthrough on the mantle. Now wouldn't that raise the eyebrows of the roach exterminator next time he sprays your living room?

Knowledge of the contents of this book will push you beyond the level of the average machinist/handyman. And whether or not you use much of this material is not that important. The more you know, the more creative you can be because you have the raw material to synthesize new ideas. A smart mechanic will use this as an idea book if nothing else.

If you like to build unusual equipment, this belongs on your shelf next to Procedures in Experimental Science. Get a copy! 8 1/2 x 9 paperback 549 pages

Cat. no. 532

\$43.25



# George M. Hopkins's Experimental Science

EXPERIMENTAL SCIENCE  
by George M. Hopkins  
reprinted by  
Lindsay Publications

Fantastic! There is no other way to describe this incredibly illustrated two-volume set from 1906. It is certainly worth having.

Starting about 1889 Scientific American Magazine published a regular column by George Hopkins showing readers how they could build experimental equipment and test their own versions of new inventions such as the electric light, telephone, and phonograph. Hopkins' columns were routinely reprinted in books, and this 25th edition from 1906 had to be split into two volumes. And what a pair of volumes they are!

Build a gyroscope, Foucault's pendulum, a simple hydraulic press, a hydraulic ram, simple air pump, Geissler tube, a recorder for sound vibrations, device for production of sounding waves, a simple phonograph, centrifugal siren, and Norremberg Doubler.

You can build a simple microscope and accessories, or a simple camera with plate holder, make Daguerreotype photos like those from the 1840's (dangerous), experiment with magnets, static electricity, build all kinds of batteries, a device that converts heat directly into electricity, build bells, electromagnets, and even a 1/4 hp electric motor.

In volume Two you will explore AC electricity, arc lamps, high voltage induction coils, and much more. You will build a telephone and a magic lantern. You'll blow glass, grind lenses, make test tube racks, build and fire a crucible furnace, make carbon rods and plates, and much more. Build a simple acetylene gas generator. Experiment with liquid air, diving rods, metal detectors, wireless telegraphy, and high voltage!

**Build Amazing Scientific Equipment! A 1906 Classic back in print!**

You're expected to have some mechanical ability. The how-to you get is not overly detailed, but you WILL get excellent illustrations that will show you almost everything you need to know. Any additional secrets are pointed out in the text.

Build and operate scientific equipment that hasn't even been seen in decades. Unique science fair projects! You will get hours and hours of enjoyable reading. It's impossible to reveal the scope and beauty of these two books in this limited space, but take my word for it, these are fascinating books. Top quality. Expensive, but worth the price. Put them on your "must have" list...

## • EXPERIMENTAL SCIENCE Volume One

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## • EXPERIMENTAL SCIENCE Volume Two

5 1/2 x 8 1/2 paperback 532 pages  
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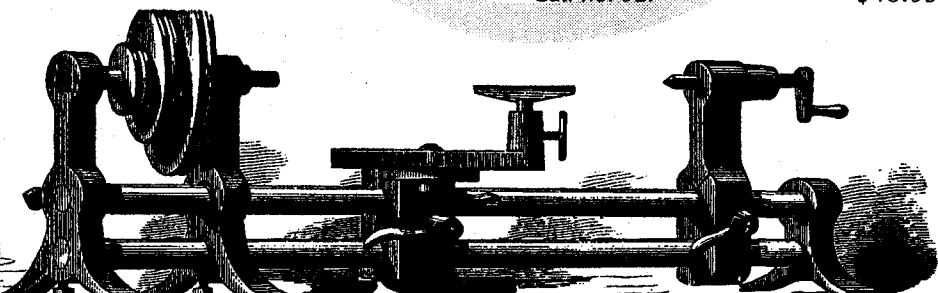
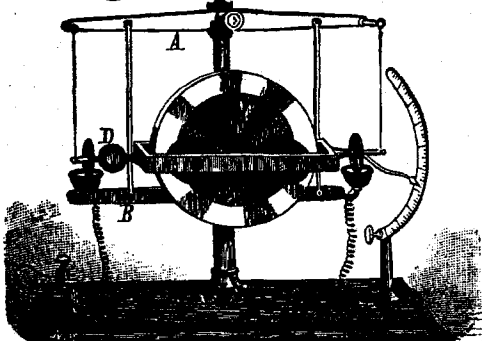
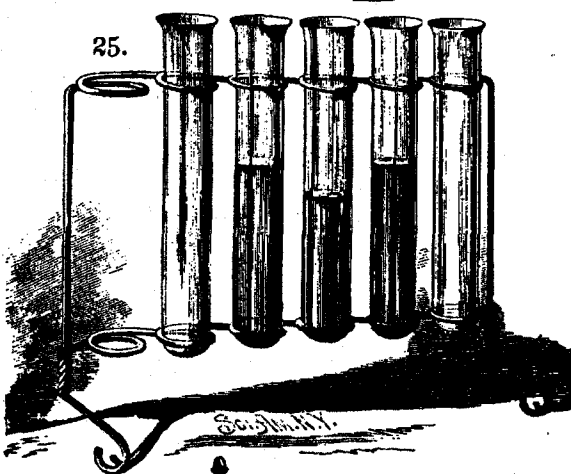
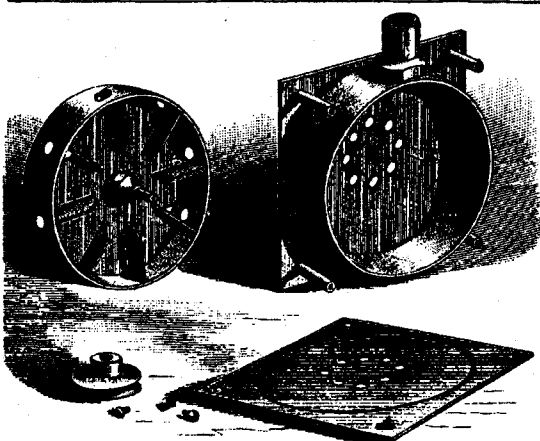
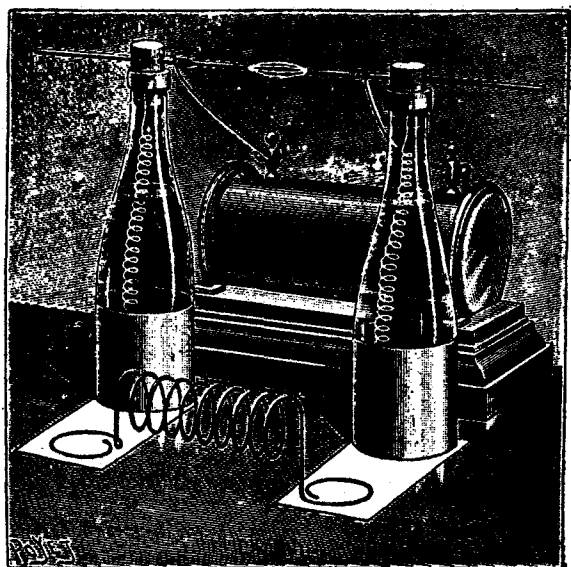
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**NOT AVAILABLE**



# Practical Math!

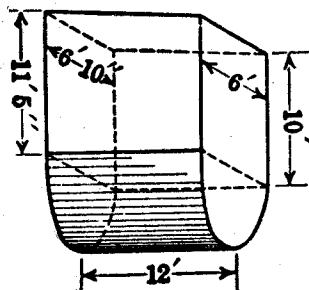
**One of the Most Powerful Tools Ever Devised!**

## PRACTICAL MATHEMATICS FOR HOME STUDY

by Claude Palmer

reprinted by Lindsay Publications

People laugh at me because I carry a pocket calculator in my shirt pocket like any died-in-the-wool nerd would. But the joke is on them. I discovered long ago that math is an extremely powerful tool that can save work, time, and money. Those who laugh



don't know how to harness the power of math. The basic math techniques I carry around in my head and use with my calculator are explained in this book from 1919.

Math is important to mechanics and machinists. It can mean the difference between having a design fail or getting it right the first time. If you're rusty on your math and need a good review, this is the book you should have.

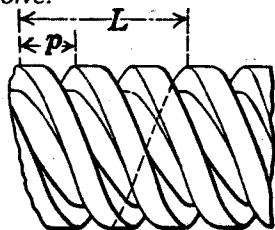
Chapters include common fractions, decimal fractions, short methods, weights and measures, percentages, ratios and proportion, density and specific gravity, and powers and roots.

The geometry chapters cover plane surfaces, triangles, circles, graphical methods, prisms, cylinders, pyramids and cones, spheres, and other solids.

The algebra chapters include notation, formulas and translations, positive and negative numbers, addition and subtraction, exponents and powers, quadratic equations, variation, graphics, logarithms, angles, trig functions, trig tables, right triangle, and more.

You'll learn the math in short, clearly explained lessons. Then you'll be asked to solve problems like "Two steam boilers of the same shape are respectively 12 ft and 15 ft long. Find the ratio of their surfaces." After you solve the problem, you can check it against the answer given.

Another problem asks "To what diameter should a piece of stock be turned so that it may be milled to a hexagon and be 1 3/4 in. across the flats?" -or- "If a wrought-iron bar 2 in. by 1 1/4 in. in cross section breaks under a load of 125,000 lb., what load will break a wrought-iron rod 2 1/2 in. in diameter?" -or- "The pulley on the headstock of a lathe is 3 in. in diameter. This is belted to an 8-in. pulley on a shaft that makes 420 revolutions per minute. At what rate will a block of wood placed in the chuck revolve?"



**Triple Threaded.**

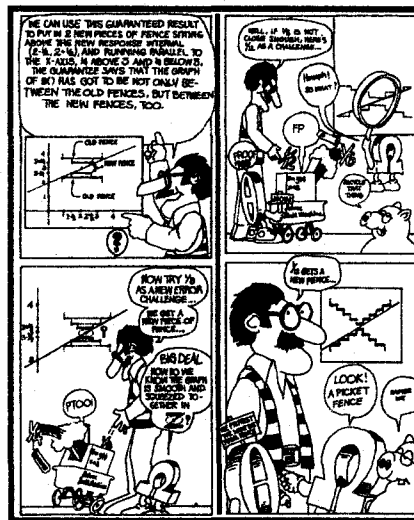
You'll be able to solve these and hundreds of other problems.

If you've forgotten the math you once knew, or you want to expand your abilities, get a copy of this. It's a big book loaded with valuable lessons. The price is a little bit on the expensive side, but the most comparable modern book I've seen sells for more than twice this one.

Get a copy and get going. It's an excellent text. A great reference. Worth having. Order a copy today. 5 1/2 x 8 1/2 paperback 518 pages

Cat. no. 4775 \$12.95

# Great Calculus Books!



## PROF. E. MCSQUARED'S CALCULUS PRIMER

by Swann & Johnson

This is the craziest math book I've ever seen! I had calc in college but never in comic book form like this! You should order a copy of this and learn what it has to teach.

Calculus is the difference between engineers and non-engineers. If you would like to read engineering texts and understand what they're talking about, you need a calc background. This won't make you a pro, but you'll understand what func-

tions and discontinuities are, limits, and derivatives. You'll pick up the language and be able to understand scientific talk.

It will take work on your part, but I've never seen a more brilliant explanation of what's happening. This is a tool like a lathe or a table saw. Learn this skill, and it will return dividends for all the years you have left to live. An unusual way to learn the core concepts of calc. 8 1/2 x 11 paperback 214 page comic book.

Cat. No. 51

\$19.95

## CALCULUS MADE EASY

by Silvanus Thompson

Fear is often the biggest obstacle to learning math — all those strange symbols! When a calculus book starts out in the first sentence of first paragraph on the first page explaining what the most scary symbols mean, you know it's a good book. The author obviously wants to teach you something rather than scare you.

Any scientist or engineer will tell you calc is a tool not much different from a welder or a lathe. But I took calc from a mathematician in college, and that jerk thought calc was an art form! Most of the time I didn't know what he was talking about (I'm not sure he did either). Who's looking for beauty in numbers? I need to solve problems.

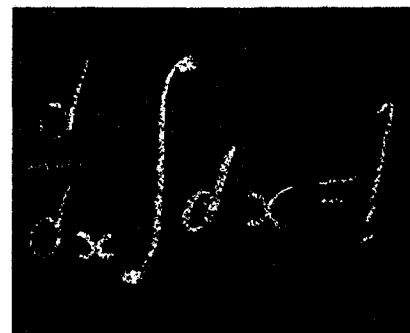
This shows you how useful calculus is. It is as practical an approach as I've ever seen, and the author really takes the fear and confusion out of teaching this math.

Don't get me wrong. Just thumbing through this book is NOT going to teach you calc. You're going to have to work at it. But Thompson's approach is down to earth, and he covers it all: differentiation and integration. And this is 90% of the heavy math you see in engineering books.

A lot of book for the money! If I had had this book at the same time I had that madman mathematician, I probably would have learned a lot more. It's too late for me, but not for you. Order a copy. 5 1/2 x 8 1/2 paperback. 250 pages.

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# Be A Speed Demon with Numbers!

HOW TO CALCULATE QUICKLY

by Henry Sticker

From the back cover:

"Do you want to double or triple the speed with which you calculate? Can you run a rapid mental check over the results of your calculating machines? Can you check bills worked out for you by grocery store cash registers, on waiters' checks, on department store charge accounts? Or do you simply take their word for the disposal of your money? Don't envy friends who can perform these calculations with lightning speed and complete accuracy. Theirs is not wholly an inborn ability. You can acquire these skills by the methods described in this book.

How to Calculate Quickly is a tried and true method for helping you in the mathematics of daily life - addition, subtraction, multiplication, division, and fractions.

The author can awaken for you a faculty which is surprisingly dormant in accountants, engineers, scientists, businessmen and others who work with figures. This is 'number sense'—or the ability to recognize relations between numbers considered as whole quantities. Lack of this number sense makes it entirely possible for a scientist to be proficient in higher mathematics, but to bog down in the arithmetic of everyday life.

This book teaches those necessary mathematical techniques which schools neglect to teach: Horizontal addition, left to right multiplication and division, etc. You will learn a method of multiplication so rapid that you'll be able to do products in not much more time than it would take to write the problem down on paper...."

If you're not afraid of a milling machine or a ladle full of molten metal, then why should you be afraid of numbers on paper? On in this case, in your head? Math is a tool. Anyone who avoids math because they're intimidated by it is letting an extremely powerful tool go unused. This inexpensive book of tricks can help you get better use from simple math. Valuable for everyone. Dirt cheap. Get a copy. 5 1/2 x 8 paperback 185 pages

Cat. no. 598

\$3.95

# Precalculus Mathematics!

PRECALCULUS MATHEMATICS IN A NUTSHELL

by George Simmons

You can quickly learn or review geometry, algebra, and trigonometry with this excellently written and illustrated paperback.

To really understand calculus, most often it's helpful to explain what's happening with pictures of geometric figures and curves. For instance, calculus uses the process of integration to find the area of irregular areas. Geometry and trig do much the same thing but on a much simpler basis. So

it makes sense to understand the simple techniques before you jump into the more complex (and much more useful) techniques of calculus.

Algebra is simply the shorthand of calc — a way of solving for unknown quantities.

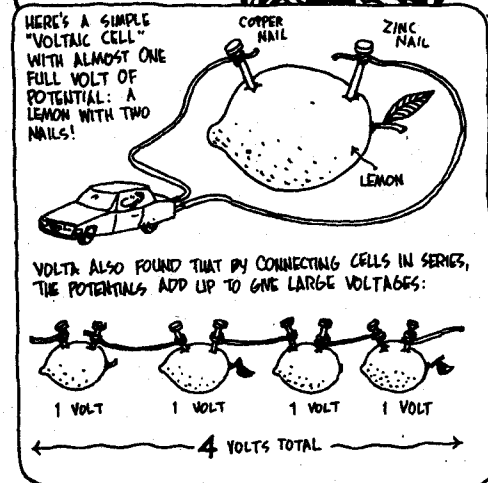
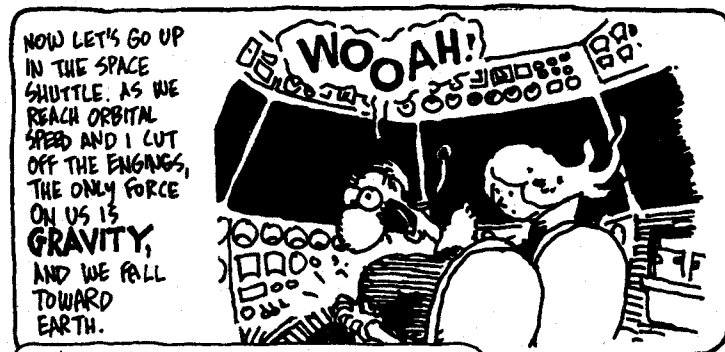


You need to understand it, too.

Get a copy of this. It's simply written, and beautifully illustrated. If there's any fault, it's that each explanation is too short. On the other hand, if they were lengthy, the book couldn't be called "in a nutshell". Quality. It delivers. 7 x 9 paperback. 119 pages.

Cat. No. 549

\$12.95



## THE CARTOON GUIDE TO PHYSICS

by Gonick & Huffman

Learn the basics of physics (the science of energy) with this cartoon guide. It can't get any more painless or any more fun than this. It only covers mechanics and electricity & magnetism, but those are probably the two fields you'll most often encounter every day.

Learn about satellite motion, orbits, Newton's third law, collisions, rotations, capacitors, electric field, Faraday induction, inductors, AC and DC, Maxwell's equations and more.

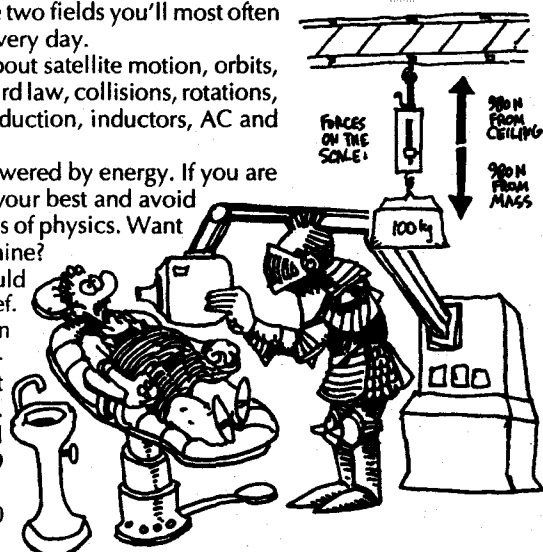
If you build machines, they're powered by energy. If you are to enjoy building machines and do your best and avoid mistakes, you should know the basics of physics. Want to build a perpetual motion machine? You had better study physics. It could save you a lot of time, money, and grief.

This is a great but brief introduction into what can be a fantastically complex field. But that's what makes it interesting — you'll never know it all. Get a copy of this and learn. It will whet your appetite for more. 7 1/2 x 9 paperback 212 pages

Cat. no. 586

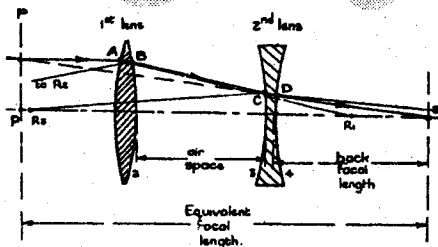
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# Cartoon Guide to Physics!





## Optics & Optical Instruments



### OPTICS AND OPTICAL INSTRUMENTS

by B.K. Johnson

Here's a reprint of a 1947 book that reveals in simple formulas how to design or at least understand microscopes, telescopes, collimators, simple and complex lenses, photographic lenses, mirrors and more.

Chapters include: reflection and refraction, focal length measurements, the eye, the telescope, the microscope, photographic lenses, optical projection systems, working and testing optical glass, plus an appendix describing how to silver mirrors, cement lenses, and more.

You won't need this material everyday. But if you need basic info on lenses without all the complex theory, get a copy of this. Quite reasonably priced. 5 1/2 x 8 1/2 paperback 224 pages

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\$5.95

## WORK FOR A JERK?

### HOW TO WORK FOR A JERK

by Robert M Hochheiser

Oh, yes. You CAN deal with a jerk. Here's how.

Chapters include: they do it on purpose; the cast of characters, dilettantes, fops, experts and other meat-heads; corporate dinosaurs; inhuman resourcefulness; politics; if you're also a boss; and it's only a job.

"Do you think of your boss as a grade A unadulterated jerk whose brains are on vacation? Does he act like a world class bozo who would get the Nobel Prize in bungling if there were such an award? Has he given you the impression that his concept of developing a good idea is cooking up some preposterous reason for denying you a raise?"

Once worked for people like that, and I'm sure you have too. Get even. Work around them and be successful. I wish I had had this book years ago. I could have counterattacked and achieved success much earlier. And I could have watched those jerks hang themselves and slowly twist in the wind.... Good reading. Useful. Get a copy. 5x8 paperback 227 pages

Cat. no. 747

\$9.00

## LOCKS!

### LOCKS & LOCKSMITHING 3RD EDITION

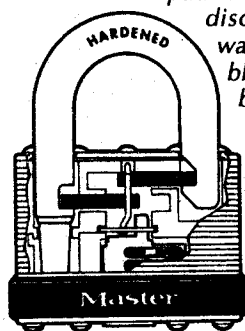
by Roper & Phillips

From the back cover:

"Whether you're an experienced locksmith, someone who's just starting out in the locksmithing business, or a do-it-yourselfer who wants to put in his own security system, there is no better place to turn for guidance in selecting, installing, and maintaining today's most advanced locks and security hardware..."

You'll find the very latest information on

•All kinds of locks and keysets - including pad-lock, warded, lever,



disc-tumbler, schlage wafer-tumbler, pin-tumbler cylinder, double-bitted, and combination

•Home, business, office, automotive, auxiliary door, and vending machine locks  
•High-security mechanical locks and electrical access and exit control systems  
•Master keying systems  
•Lock decoding, lockpicking, and emergency entry tools and procedures  
•The business and law of locksmithing, including standards for locksmith licensing, bonding, and certification  
•Locksmithing equipment manufacturer and suppliers  
•Plug follower and holder diameters for today's most popular locks..."

This is a book we have offered for many years - updated and better than ever. Loads of illustrations and practical how-to. Excellent book. Order a copy today! 7 1/2 x 9 paperback 437 pages

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\$19.95

### THINKING WITH A PENCIL

by Henning Nelms

"With 692 illustrations of easy ways to make and use drawings in your work and in your hobbies."

"Originally published in 1957, *Thinking with a Pencil* was one of the very first books to attempt to break through the conceptual barriers between words and images... It explains how to draw for those who want to use

## Thinking With a Pencil!

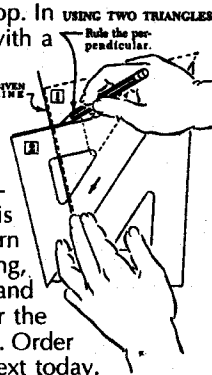
it for that purpose, but the real value is in the fresh techniques of using illustration as a thinking tool and as a means of organizing and presenting ideas."

I know some really talented mechanics and machinists who build new machines by trial and error. If they would only take a few minutes and sketch out their ideas, refine them on paper, they'd find that they'd make fewer mistakes and fewer false starts once they got out into the shop. In other words, thinking with a pencil would make them more successful. I've been doing this for years. You should, too.

If you don't know how to think with a pencil, then get a copy of this book. It's good. You'll learn everything from drawing, to isometric drawing and more. A lot of book for the money. Master this skill. Order a copy of this classic text today. 6x9 paperback 347 pages

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## 50 Perpetual Motion Machines

### FIFTY PERPETUAL MOTION MECHANISMS

by Fred Dieterich

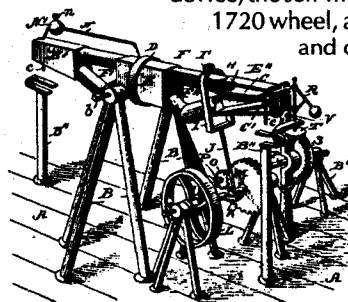
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The author was a patent attorney who wrote a book in 1899 entitled "The Inventors Universal Educator" covering the process of securing a patent. One short section of his book covers perpetual motion inventions which are unpatentable. Dieterich, who was outraged by claims of perpetual motion, presents drawings of 50 different mechanisms. No doubt, you've already seen a number of these, but others are unique, and all are interesting.

You'll see the Marquis of Worcester wheel, the Horace Wickham machine, the 1868

**Make one of these machines work, and you'll be rich and famous beyond your dreams!**

device of Dr. Drasch of Austria, an electric device, the self-moving railway, the Orfyreus 1720 wheel, a complicated water screw, and others.

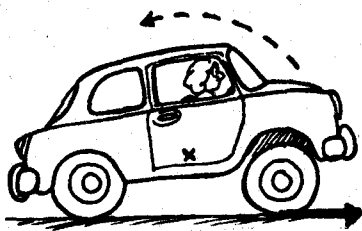


If you're into PM, you'll want to add this to your collection. Maybe you're trying to build a machine and want to avoid previous failures. Or you're a skeptic and want a good laugh. Whatever, the material is interesting and the price is low. Get a copy.

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# Physics! The story of how the universe really works!

## THINKING PHYSICS

### Practical Lessons in Critical Thinking

by Lewis Carroll Epstein

I think most people are ostriches. They bury their heads in the sand rather than explore and marvel at some of the simplest things around us. They think I'm a wacko because I'm curious. You're reading a catalog that is a result of curiosity. If you're reading this, then you're obviously a wacko like me. And this book is for the curious like us.

You get a collection of puzzles that make you think, teach you lessons, and point out curious things you've haven't gotten to yet.

"A dragster starts from rest and accelerates to 60 mph in 10 seconds. How far does it travel during those 10 seconds?" Next page: "The next dragster is so

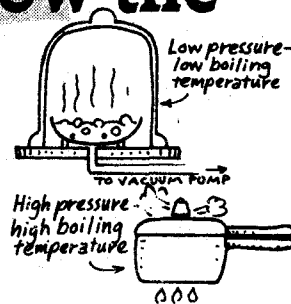
stripped down that it does not even have a speedometer. At maximum acceleration from rest it goes 1/10 of a mile in 10 seconds. What speed did it get up to in those ten seconds?" Page 48: "If a can of compressed air is punctured and the escaping air blows to the right, the can will move to the left in a rocket-like fashion. Now consider a vacuum that is punctured. The air blows in the left as it enters the can. After the vacuum is filled the can will a) be moving to the left b) be moving to the right c) not be moving."

Page 147: "By glancing at the night sky you can immediately estimate your a) latitude b) longitude c) both d) neither" Page 244: "A block of metal with a white surface and block of metal with a black surface of the same size are each heated to 500°C. Which radiate the most energy?"

Page 425: "Is it possible to make a magnetic field without the use of iron?"

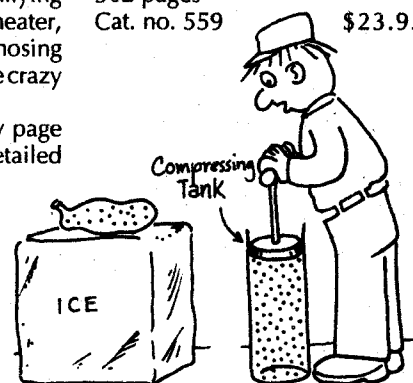
You'll find puzzles on kinematics, momentum, rotation, gravity, fluids, heat, vibrations, gravity, light, electricity & magnetism, relativity, and quanta. And within these topics you'll find fascinating details about an artificial aurora, synchrotron radiation, time warp, a magnifying glass in the sink, a quartz heater, the quicksilver sea, the nosing car, a popcorn neutrino, the crazy pulley, and much more.

At the bottom of every page printed upside down is a detailed explanation of the answer. And every puzzle is illustrated. This is a fun way to learn about the world around you. And I don't care if you have had a number of



courses in physics, this will make you think. It's a fun, educational book. Guaranteed to teach you valuable lessons. Expensive, but worth it. Get one! 6x9 paperback 562 pages Cat. no. 559

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## Classic College Physics Text! A Master Reference!

### COLLEGE PHYSICS

by Sears, Zemansky & Young

If there was ever a classic college physics text, this is it. It has been around a LONG time (since 1947). I was referring to this text when I was in high school researching adiabatic, isentropic

expansion processes for liquid air machines. It was great then, and it's better now.

You get the straight scoop on all aspects of physics which

should be of importance to any mechanic and any experimenter. You'll find plenty of math, none of it too heavy, that allows you to predict the performance of everything from weights and springs, rockets, RL electric circuits, engines, pipe organs, electromagnets, light and lenses, spectrosopes, and even nuclear physics.

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govern energy and its use. If you intend to design machines, you should certainly know the simplest things such as the laws of motion, center of gravity, inertia, and more. If you're into steam engines, do you know the difference between Fahrenheit, Celsius and rankine systems? What is specific heat? What is an ideal gas? How about sound and wave motion? Building a Tesla coil or Wimshurst machine? You had better study up on electrostatics. What's the definition of an ampere of current? And on and on.

If you try to build anything of any complexity that comes anywhere near modern state-of-the-art, you had better know what's in this volume. If you don't, you'd have a better chance of hitting the moon with a slingshot

This is a 'must have reference' book. Every public library should have a copy. Every designer, builder, researcher, and experimenter should have a copy for reference. It's far too expensive, but then, it IS a college text that is being constantly updated. This is the most recent edition. This is the way the real world works, and I'll bet you don't even know a tenth of what's in here. It doesn't have to be that way. Get yourself a copy, and get learning. It's great! 8x10 hardcover 880 pages Cat. no. 577

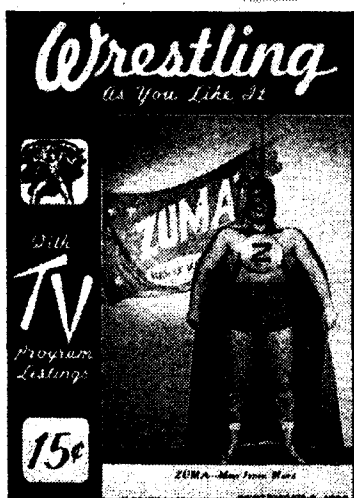
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### PARTIAL CONTENTS

vector addition, force, equilibrium, Newton's first law, friction, motion, average velocity, instantaneous velocity, freely falling bodies, relative velocity, Newton's second law, mass, motion in a plane, circular motion, centripetal force, motion of a satellite, work, kinetic energy, gravitational potential energy, power, mass and energy, impulse and momentum, inelastic collisions, recoil, rocket propulsion, moment or torque of a force, center of gravity, couples, angular velocity and acceleration, moment of inertia, torque and angular acceleration, parallel-axis theorem, stress, strain, elastic modulus, harmonic motion, simple pendulum, physical pendulum, pressure in a fluid, pressure gauges, pumps, surface tension, contact angle and capillary, Bernoulli's equation, viscosity, Stokes' law, Reynolds number, thermometers, thermal expansion and stresses, heat transfer, quantity of heat, heat capacity, change of phase, conduction, convection, radiation, Stefan-Boltzmann law, ideal gas, phase diagrams, triple point and critical point, vapor pressure, the cloud chamber, energy and work in thermodynamics, adiabatic process, isochoric process, internal energy of an ideal gas, heat engines, internal-combustion engines, steam engines, the refrigerator, the Carnot cycle, absolute zero, energy conversion, molecular theory of matter, Avogadro's number, molar heat capacity of a gas, crystals, periodic waves, speed of a transverse wave, water waves, sound waves, Doppler effect, electric charges, Coulomb's law, Gauss's law, electric potential energy, Millikan oil-drop experiment, cathode-ray oscilloscope, capacitors, effect of a dielectric, current, resistance, electric field of the earth, Kirchhoff's rules, ammeters and voltmeters, magnetism, Thomson's measurement of e/m, the Hall effect, direct-current motor, electromagnetic pump, and much, much more....

# BAD TASTE!

(Contrary to popular belief, Lindsay is not listed here. Not yet...)



(Don't call & complain about this photo of Chesty Morgan. I can't help it if the woman is deformed...)

## THE ENCYCLOPEDIA OF BAD TASTE

by Jane & Michael Stern

I know for a fact YOU'LL enjoy this hilarious, well-illustrated book because you have proven beyond any reasonable doubt that YOU have no taste whatsoever. How do I know? You're reading this catalog....

You get an entertaining and amusing history and illustrations on every imaginable example of bad taste from accordion music to zoot suits. And if you think you're really a smooth dude, you had better think again. You ain't nothin' fella if you eat Twinkies and Spam, watch your ant farm, think Dolly Parton is a babe, watch professional wrestling from your reclining chair, drive your van to visit a wax museum, collect sno-globes and Hummels, and enjoy heavy metal music.

This is a great book. After all the authors put down (and rightly so) all the good things in life from Barbie dolls, beer and big breasts to Frederick's of Hollywood to Bob Guccione.

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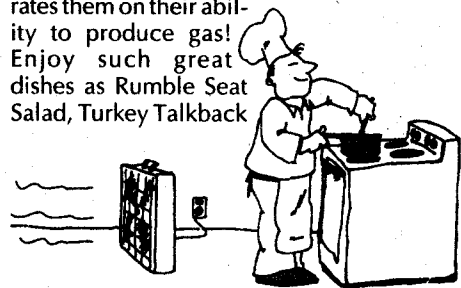
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by Travis W. Pacone

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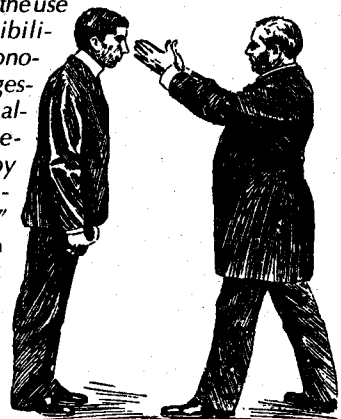
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### A 27 Year Study

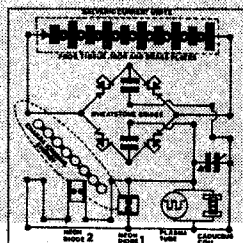
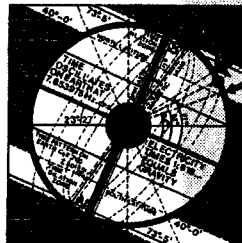


What to do with cystic ovaries of less than five centimeters in diameter, has been a problem to the medical profession ever since Epitaph McDowell rode 60 miles on December 13, 1909, to see a woman named Jane Todd Crawford, about as certain as you can get.

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# KOOKS!



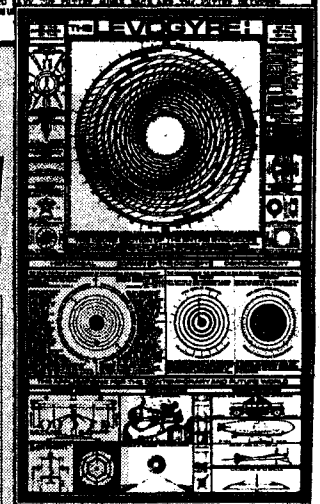
*by Donna Kossy*

*"Will drilling a hole in one's head cause enlightenment? Can a person's soul be captured in a lady's hairnet? Is Hitler alive and well and living in Antarctica? Were dinosaurs created by Satan? Are men capable of having babies? These and many other peculiar notions and eccentric people are found in... Kooks, an extraordinary source book to the outer limits of human belief..."*

178 Conspiracy

THE "MASTER RACE" FRANKENSTEIN RADIO CONTROLS  
BRAIN THROUGH BROADCASTING RADIO  
TO CONTROL TELEVISION  
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TELEPHONE  
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ALL FRANKENSTEIN CONTROLS EVEN IN  
THINKING POWER OF WHITE AND COLORED MEN  
SILENT RADIO CONTROLLED

FRANK  
JONES  
JONES



Although this book is really for entertainment purposes, many of the people described in this book are seriously mentally ill being psychotic and delusional. And that's NOT funny. Some of this is simply crazy fun like fringe science stuff. But some of these nuts preach racial hatred and genocide. *Kooks* is a fascinating look into just how creative (and frightening) the human mind can be when all stops are pulled.

**\$16.95**



# Our Mysterious World

The Offbeat & The Unexplained



## THE PHANTOM OF THE POLES

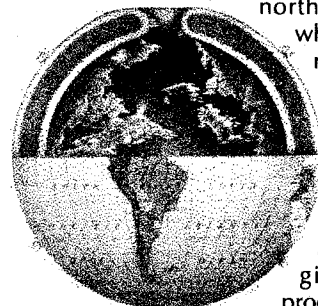
by William Reed

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The earth is hollow! You get a reprint of an early, rare classic text on the theory that there are holes at the ends of the earth that lead into the interior where there are continents and civilizations that are yet to be discovered. In fact, some people claim that NASA satellites have photographed these holes but that the photos have been suppressed. In this book Reed set out to explain unexpected and unexplained phenomena seen at the poles.

## THE EARTH IS HOLLOW!

Chapters include flattening of the earth at the poles, length of polar nights, working of the compass, around the curve, mysteries of the polar regions, the water sky - what it is, the aurora, meteors or volcanic disturbances, finding of rock in and on ice, dust in the arctic, open water at the farthest point north and south,



why it is warmer near the poles, driftwood - whence it came, have others that Esquimos inhabited the arctic regions?, what produces colored

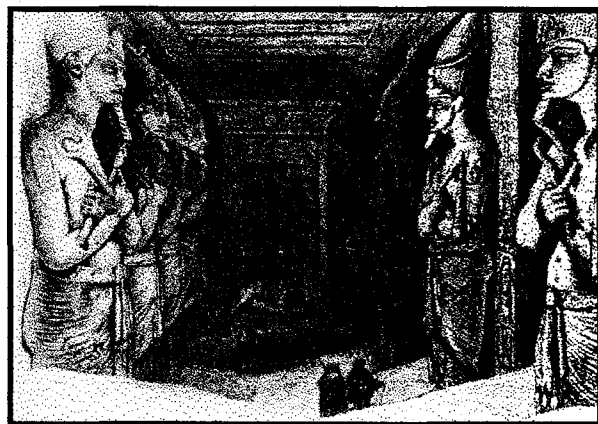
snow in the arctic, where and how are icebergs formed, the tidal wave, clouds and fogs, arctic and antarctic winds, the centre of gravity, cannot reach the poles, and what is in the interior of the earth.

You'll find references to this rare 1906 classic mentioned in the few articles published on the hollow-earth theory in recent years. Now you can put a copy in your reference library at a fraction of the cost of an original assuming you can find one. Rare book. Unusual. An essential part of that realm of unusual scientific theories and/or myths that never seem to die. Worth having! Consider it. 4 1/2 x 7 paperback 280 pages Cat. no. 20609 \$11.95

## RAPE OF THE NILE

by Brian M. Fagan

Hollywood's "Indiana Jones" is a character almost beyond belief. Yet, there were people in Egypt's past who could surpass him. The truth about Egypt is far stranger and fascinating than anything Hollywood can produce.



# Tomb Robbers, Tourists, and Archaeologists

Here you can read about the tomb robbers, the political intrigue, blackmail, bribery, incompetence, fabulous wealth and disgusting behavior in detail. Join these plunderers as they are confronted by gun-wielding natives, agents of foreign governments, greedy politicians, diseases, crocodiles and more.

Join Giovanni Belzoni, a giant of a man, who started shipping artifacts out of Egypt back to wealthy Europeans in the early 1800's. If there ever was a real life Indiana Jones, it would have to be Belzoni. He discovered the tomb of Seti I and many others in the Valley of the Kings. He dug out the temple at Abu



*Belzoni, the greatest plunderer of them all, a real life Indiana Jones*

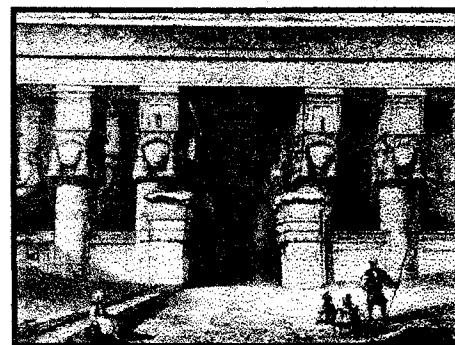
Simbel and re-discovered the entrance to the second pyramid at Giza. Join him on his search in the desert for old Berenice during which he almost died of thirst and hunger.

Wallis Budge, later director of Egyptology at the British Museum and many of whose books are still in print, was another Indiana Jones prototype. Once while under house arrest for trying to ship a valuable papyrus manuscript back to England, he secretly had

The complete story of Belzoni's race to the get

the "Younger Memnon", a huge statue, out of Egypt before his rival Burkhardt is here. You can be with him urging his crews to the get the statue to the river bank and onto a boat before the Nile could rise. It was an ordeal. That very statue is still on display in the British Museum in London.

workmen dig a tunnel from a nearby hotel cellar to the cellar of his house so that the papyrus could be taken to a waiting ship. The story is pure Hollywood.



And in the 1400 and 1500's, countless shiploads of broken up mummies: heads, arms, legs were sent back to England to be ground up for use as medicine. The British actually ate ancient Egyptian corpses for hundreds of years!

Meet Sir Flinders Petrie, the father of modern archaeology as he encouraged people to stop plundering and start studying. You'll meet them all: Col Howard Vyse, Auguste Mariette, Mohammed Ali (no, not the prize fighter), Napoleon, Gaston Maspero, Henry Salt, Bernardino Drovetti, Jean Francois Champollion, Thomas Young, and all the others. Visit Karnak, Abu Simbel, the pyramids, Philae, the Bulak Museum, and on and on.

It's all here: tomb robbers, tourists, and archaeologists. There has never been a soap opera or movie that can come close the bizarre tales you'll read here. It's all true! It's fast, fascinating reading. Heavily illustrated. You don't just read about history; you become part of the adventure. Get a copy of this. I think you'll like it. 6 1/2 x 9 paperback 407 pages Cat. no. 5008 \$14.95

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# Our Mysterious World

The Offbeat & The Unexplained



## THE COMPLETE BOOKS OF CHARLES FORT

by Charles Fort

Strange! Very strange! A must book for anyone who researches unexplained phenomena. The dust jacket explains the book better than I can...

## The Strange Books of Charles Fort

Four Mysterious Books in One!

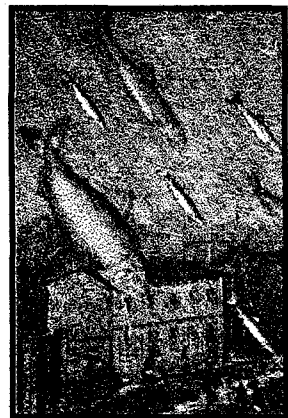
"Did beings from outer space visit earth in the past... are the various objects seen in the sky (flying saucers, in modern terminology) evidences of their visits?

"What is the explanation of falls of frogs, falls of fishes, falls of seashells, which have been recorded from time to time? Are they explainable in terms of selective tornadoes, or are they evidences of a planetary mechanism that we do not know?

"How can we answer reports of strange animals, disappearances of men from open sight, curious structures in the snow, talents like teleportation and telekinesis?

"These are the 'damned,' by which the late Charles Fort meant all the wide range of mysteries that are ignored by orthodox science or explained away improperly.

"Charles Fort worked full time for twenty-seven years at the British Museum and the New York Public Library researching scientific journals, old periodicals, newspapers, and manuscript accounts to gather material on phenomena from the borderlands between science and fantasy. His researches appeared in four books, *The Book of the Damned* [1919], *New Lands* [1923], *Lo!* [1931], and *Wild Talents* [1932].



"In these four volumes Fort gathered together, organized and commented on a wild host of phenomena: flying saucers seen in the sky before the invention of aircraft, flying wheels, strange noises in the sky; correlations between volcanic activity and atmospheric phenomena; falls of red snow; falls of frogs, fishes, worms, shells, jellies; finding of 'thunderbolts'; discrepancies in the schedules of comets, sightings on Mars and the moon; infra-Mercurian planets; inexplicable footprints in snowfields; flat earth phenomena, disruptions of gravity; poltergeist phenomena; stigmata; surviving fossil animals; the Jersey devil; Kaspar Hauser; spontaneous combustion....

"Charles Fort himself never really explained his phenomena... yet through the years his following has grown...."

In this three-inch-thick hardcover book you'll find more details on more strange, unexplained events than you'll find anywhere else. It's an incredible collection that should be part of any library on fringe science. If you specialize in the gray area at the outer edge of science, you must have a copy of this. Recommended.

No illustrations, but there is a complete and detailed index.

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## MUMMY

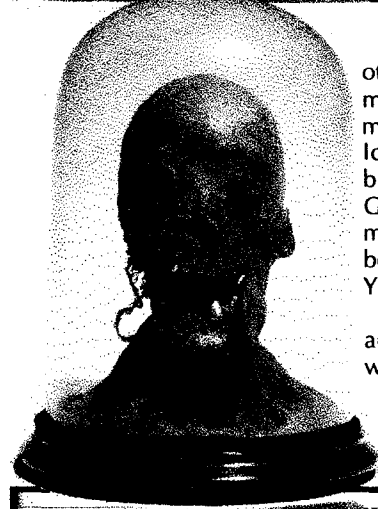
by Putnam & Hayman

"Discover the eternal secrets of mummies - from the embalmed dead of ancient Egypt to bodies preserved in bogs, sand and ice"

Do you need something mind-boggling to lay on the coffee table to fire up a conversation? This will do the job. This is an incredibly interesting book on mummies. Every page is loaded with color photographs, fascinating facts, and is so beautifully designed it almost reaches out and grabs you by the throat.

# MUMMY!

You'll see natural mummies, explore the Egyptian book of the Dead, how Egyptian mummies were made, wrapped, the amulets used, the mummy cases and sarcophagi and much more. You'll find a discussion on royal mummies, the treasures of King Tut, and the curse of the mummy.



Then you'll discover the other mummies: Greek and Roman mummies, animal mummies, mummies found in the Andes, the Iceman, the bodies found in bogs, Eskimo mummies from Greenland, and even the 6,000 mummies still stashed in chambers below a church in Sicily. You'll see it all.

This is not a great scholarly text. It's actually a wall-to-wall color picture book that will spell bind almost anyone who picks it up. No matter how much you might know about mummies, I'll guarantee that you will learn something from this and have a great time doing it.

It's only 64 pages, and it's somewhat expensive. But color is expensive to reproduce, and every page is a gem. This is bizarre! Unusual! Off-the-wall! Something worth adding to your "curiosa" book collection. (Or for making your mother-in-law sick to her stomach...) Order one today! 8 1/2 x 11 hardcover 64 pages 100% color photography Cat. no. 771 \$16.00



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Lindsay could never understand why the steering wheel in his rusted out pickup truck was turned to one side and why he had to fight the wheel to keep the truck traveling straight down the road. Then someone suggested he get the front end aligned. Lindsay was so impressed with the improvement he ran out into his shop and built a device to align the human (and sub-human) brain.

He reasoned that people were bizarre because they had hit too many mental pot holes traveling down the road of life. Their cerebral front end was all bent out of shape. So he built a machine to get their cranial caster and camber back where it should be.

Before he could test it on one of us, we snuck up on him, clamped it on *his* head and turned it on.



What we didn't know what that he had built the machine for 110 volts, and we had plugged it into 220! To make a long story short it seems to have worked. He seems to be a little more toward the center of the road (anything is an improvement) although his eyes now point in different directions, one ear is lower than the other, and his bald spot is scorched... just minor details...

Please buy books so we can get the machine shipped to Washington DC where it is really needed.

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